

WDM
TRANSMISSION SYSTEM

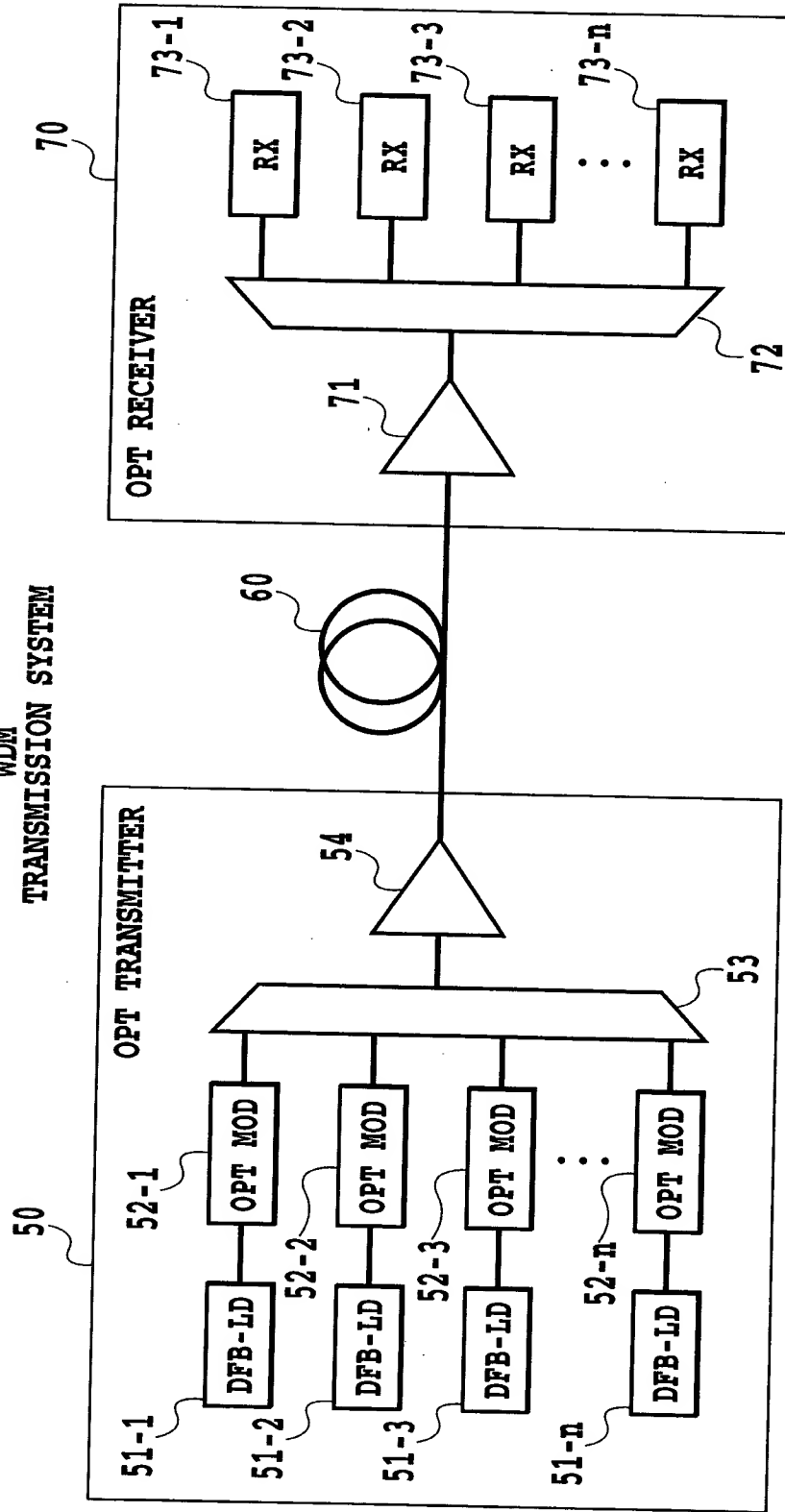


FIG.1
PRIOR ART

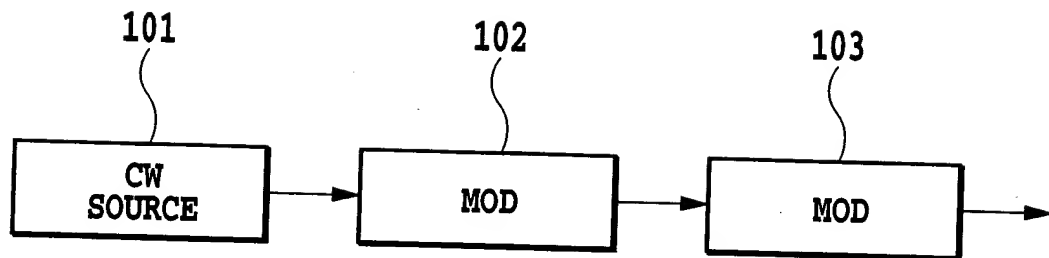
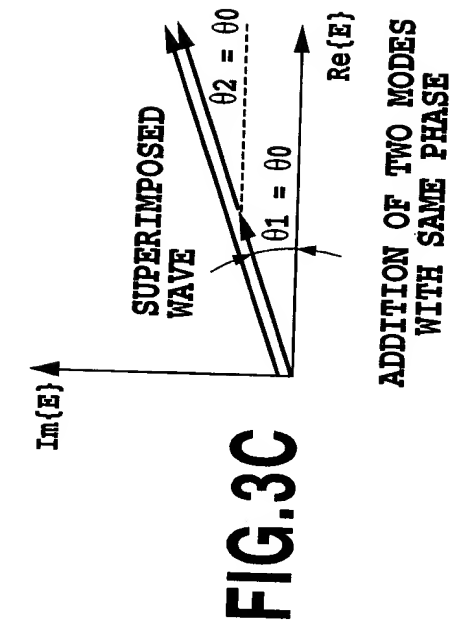
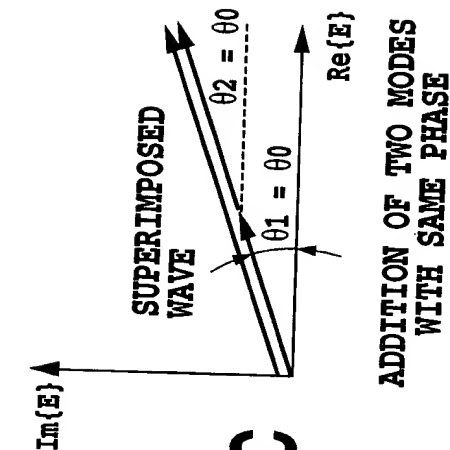
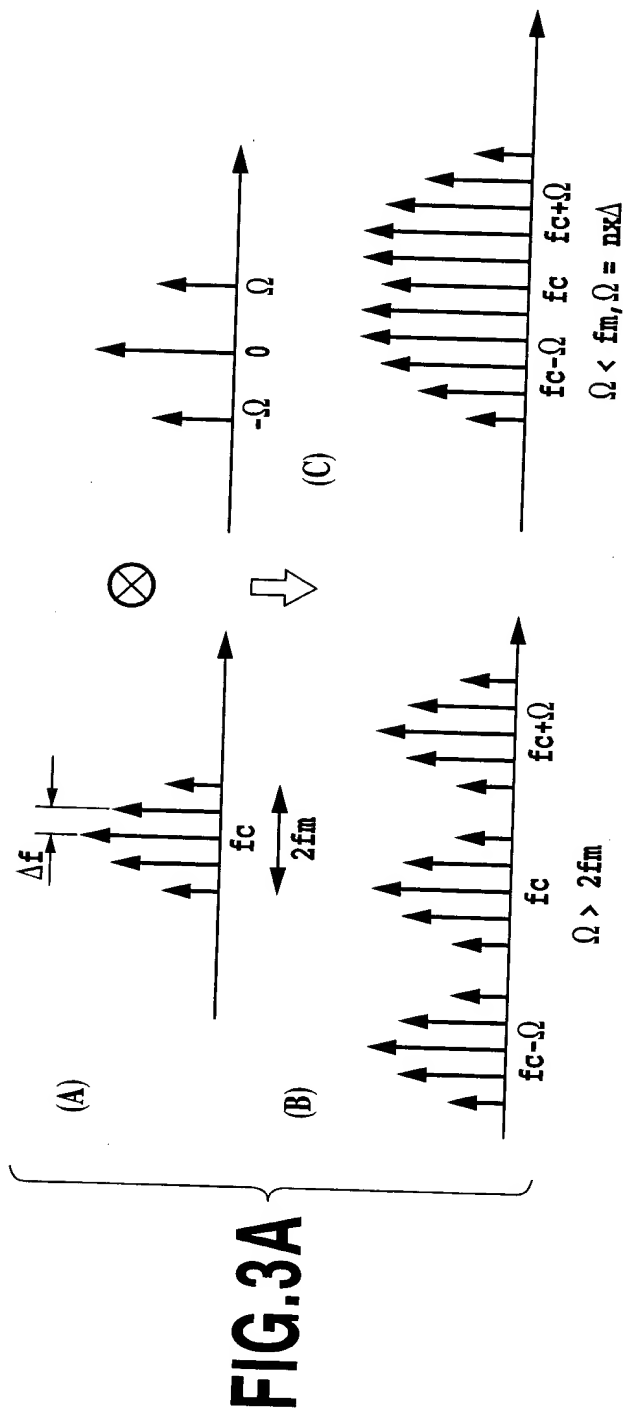


FIG.2

09900613-070601
T09070-ET900660



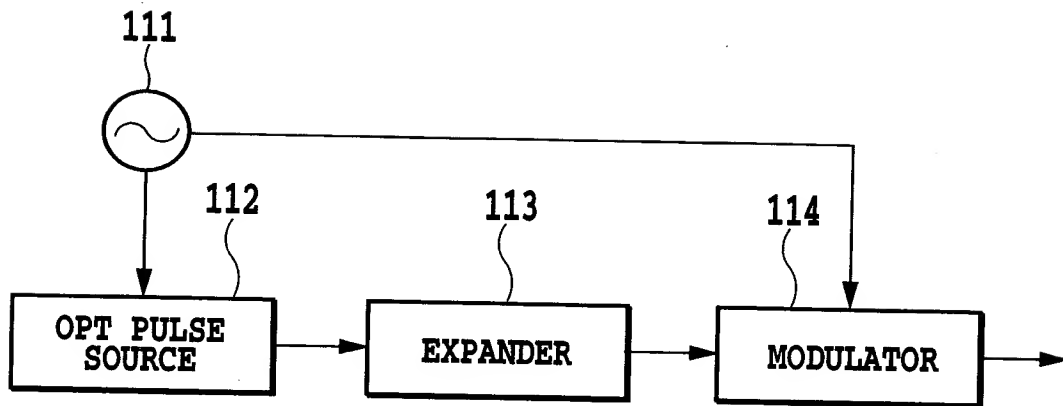


FIG.4

0900613-070601

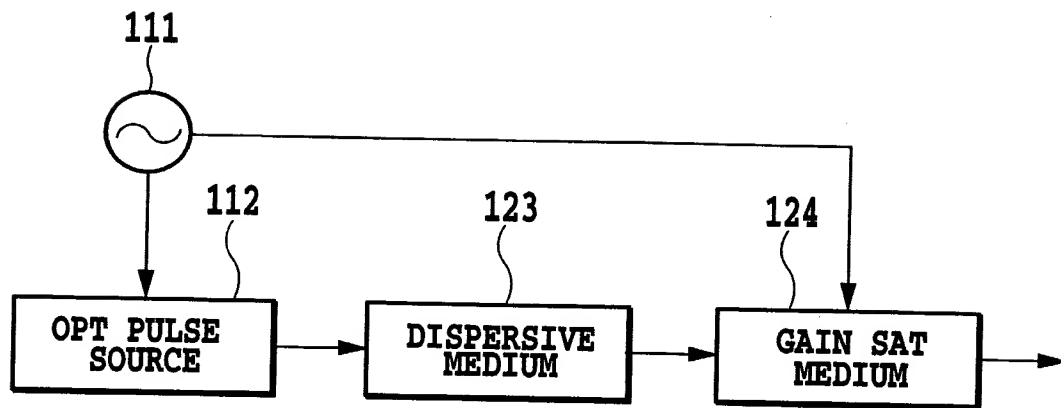


FIG.5

0900613.070601

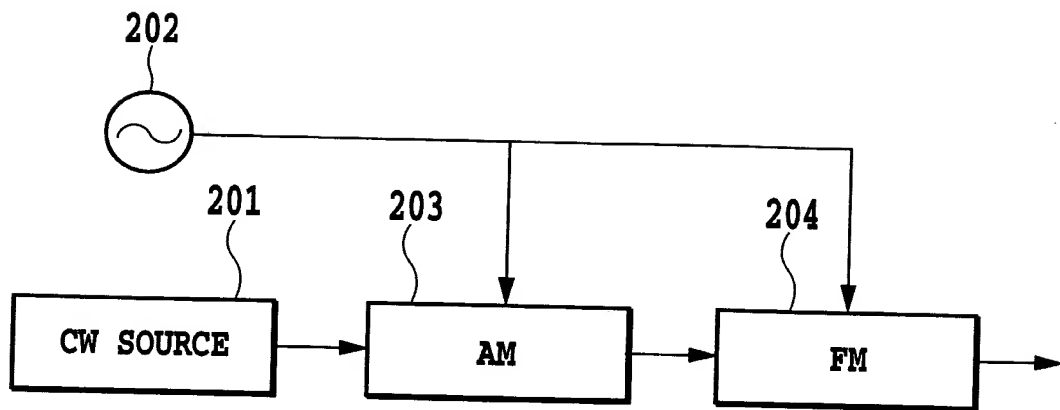
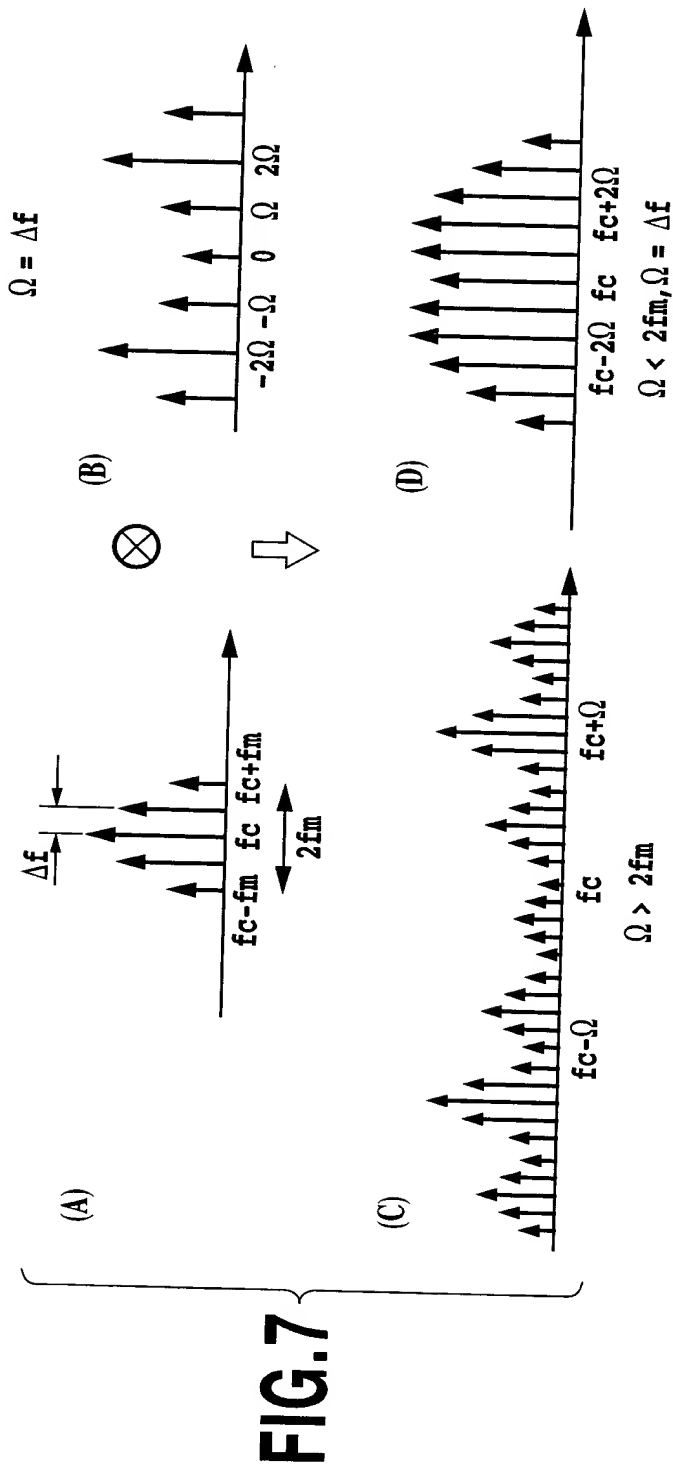


FIG.6

1090/0"ET90660



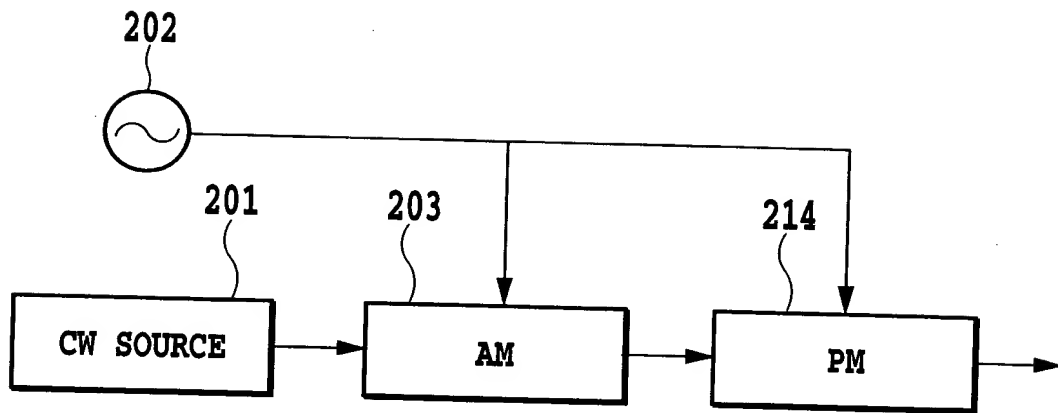


FIG.8

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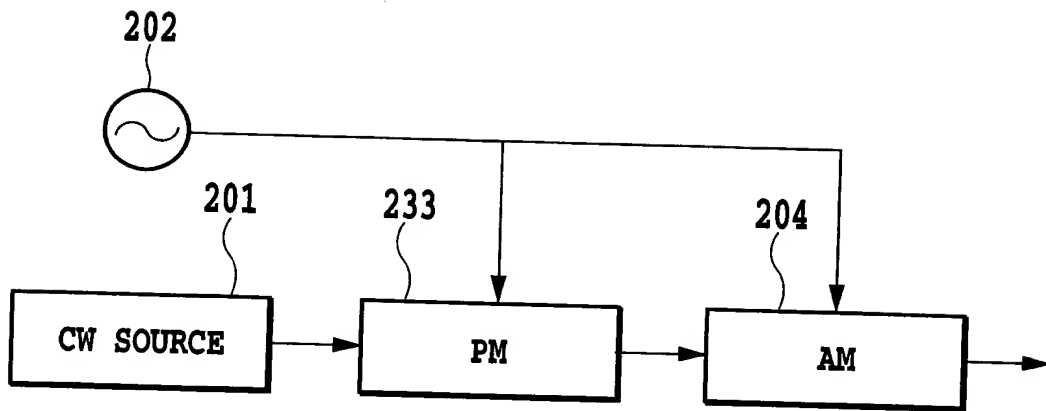


FIG.9

09900613-070601

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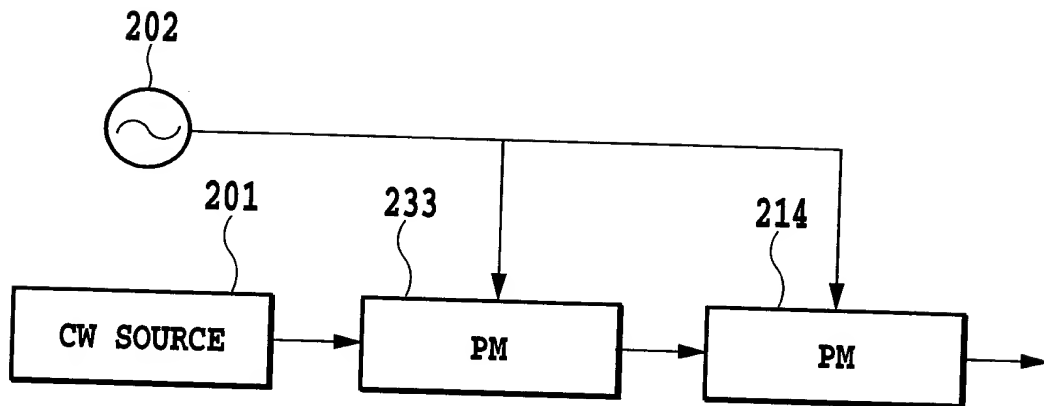


FIG.10

09600513.070601

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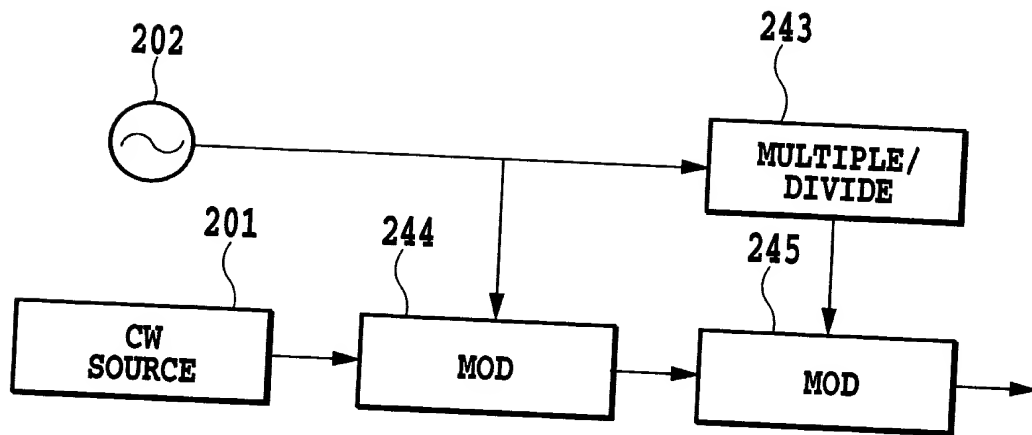


FIG.11

09900613.070601

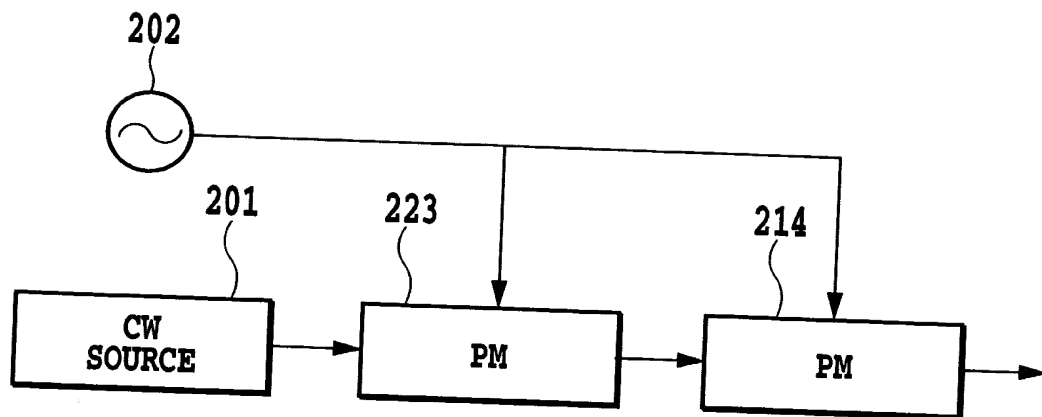


FIG.12

0900613-070601
T09070"ET90650

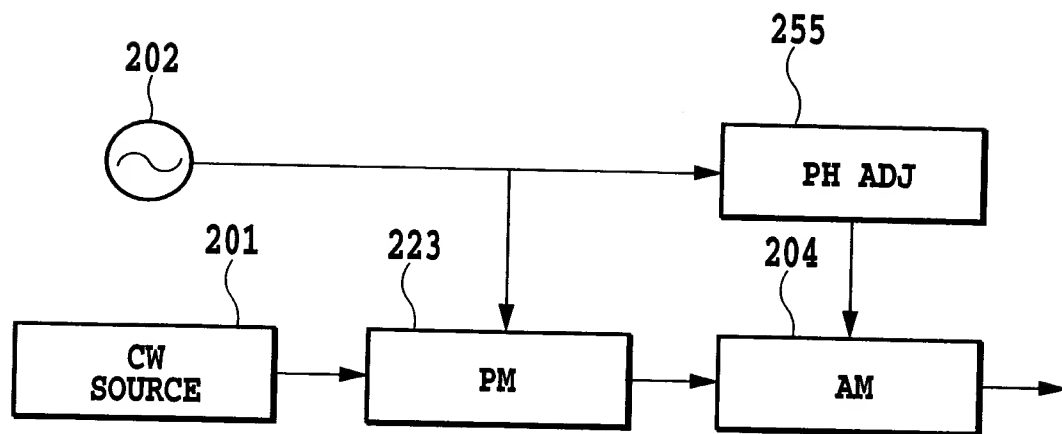


FIG.13

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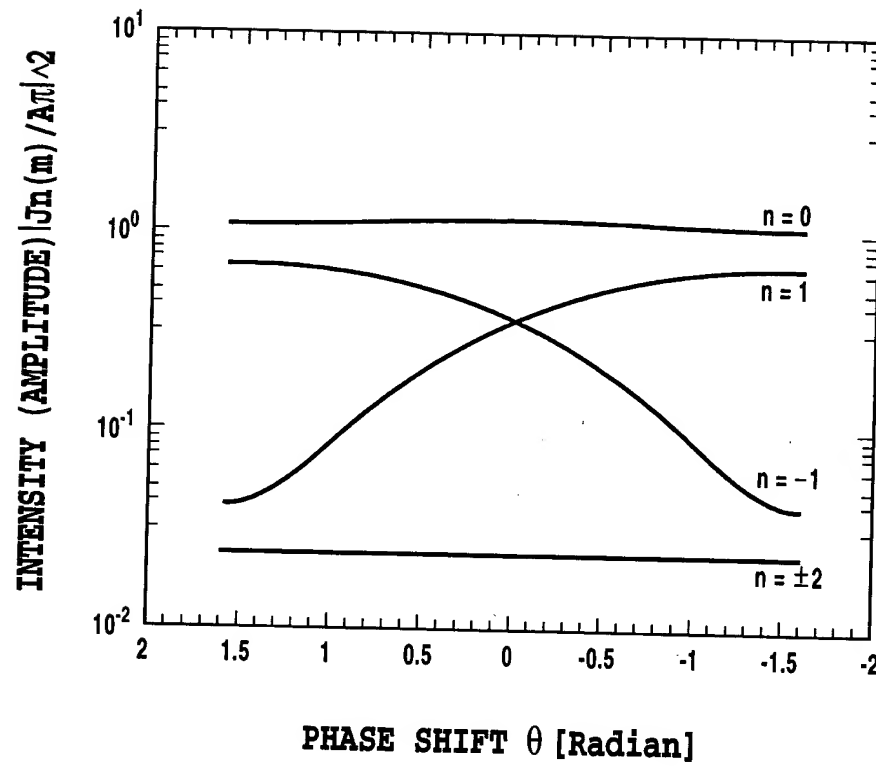


FIG.14

FIG.15

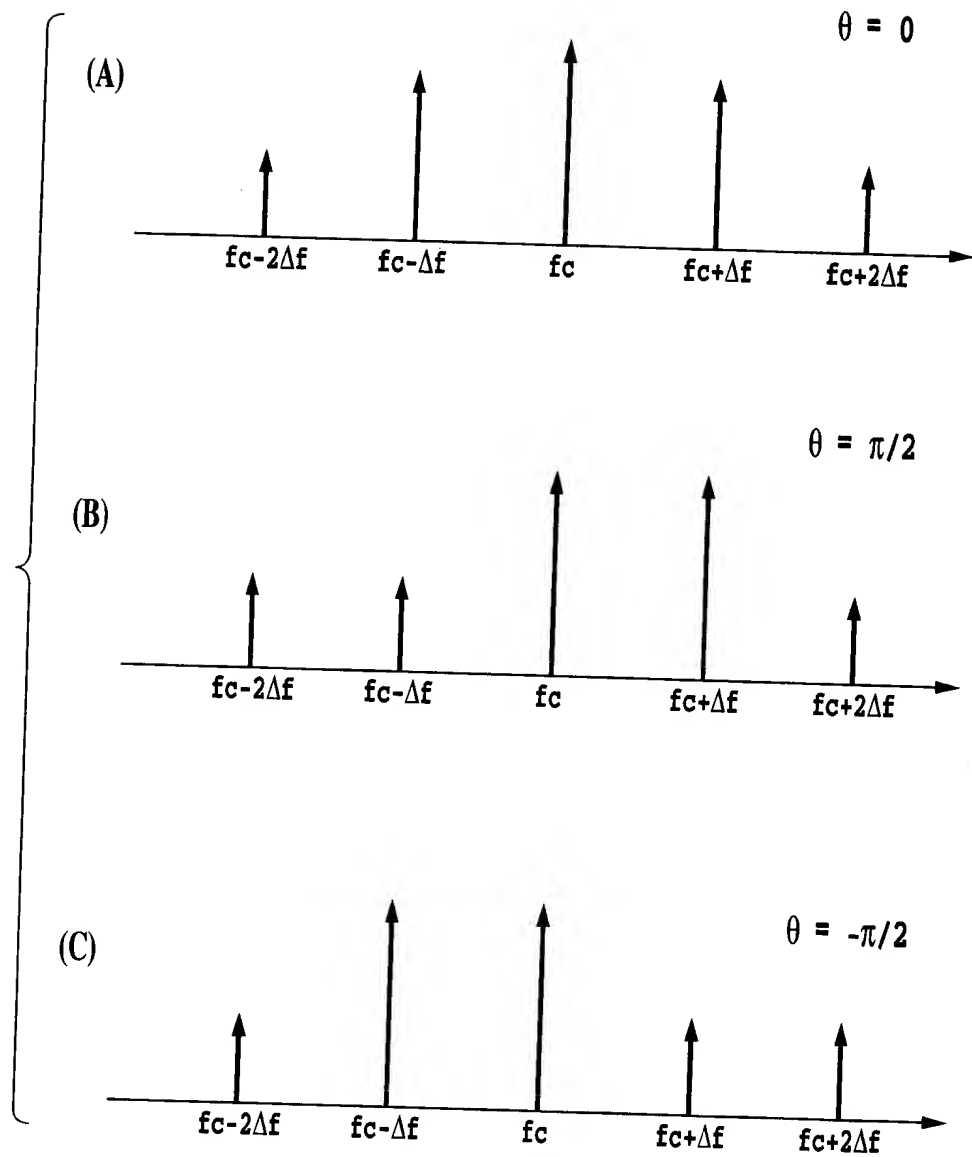




FIG. 16

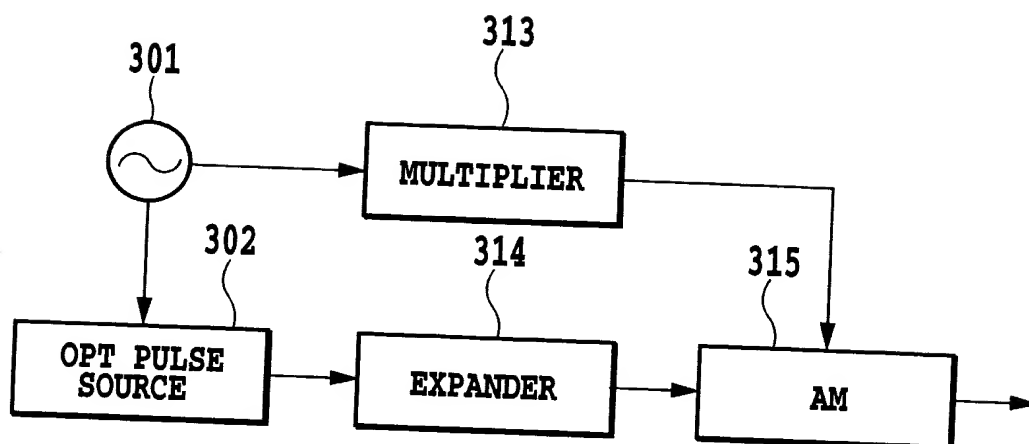


FIG.17

T09020*E9900650

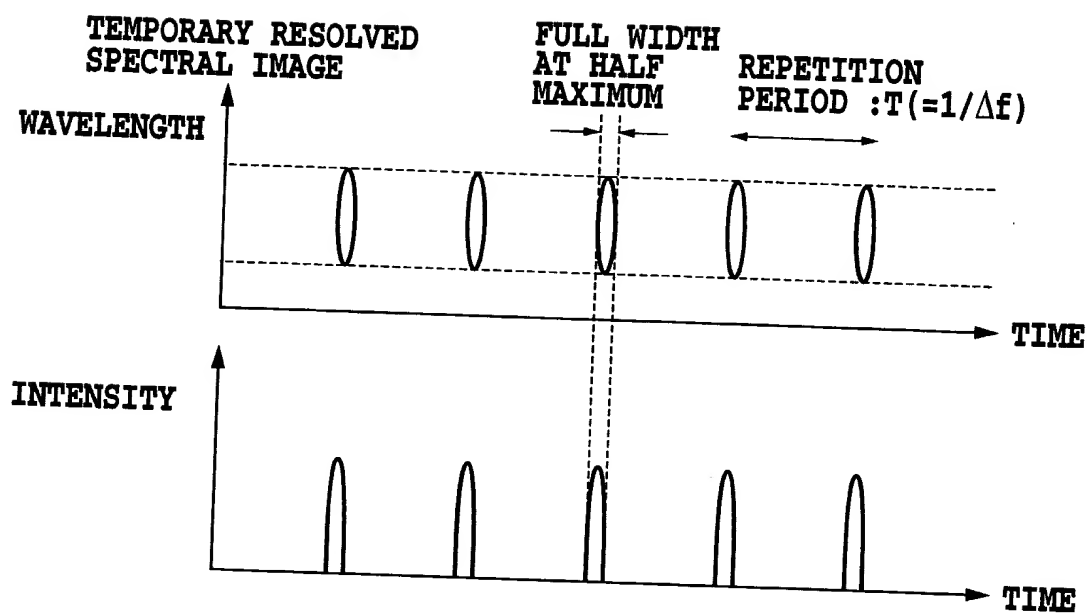


FIG.18

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0900613-070601

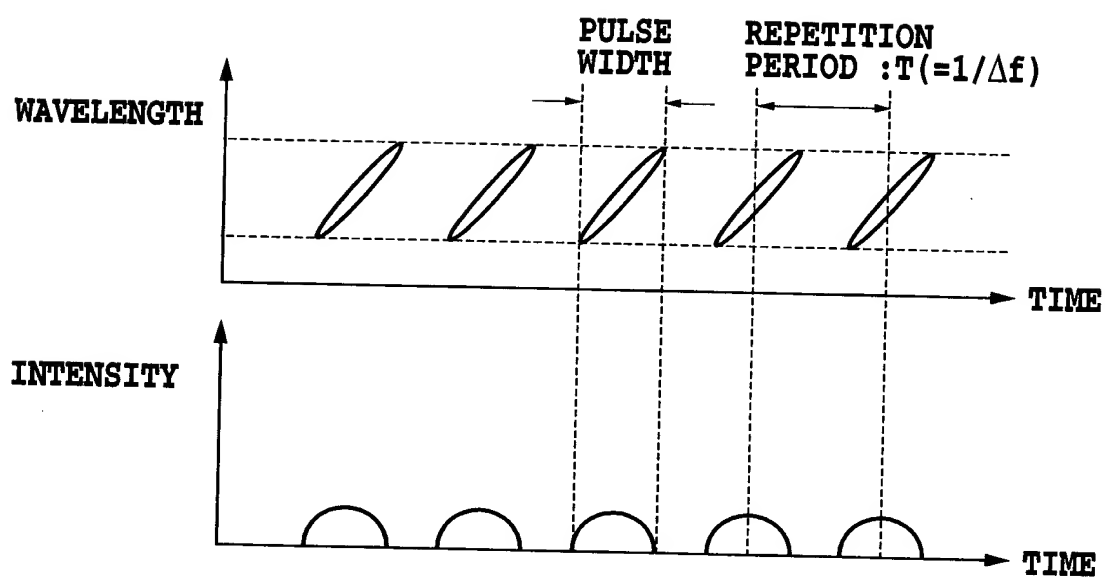


FIG.19

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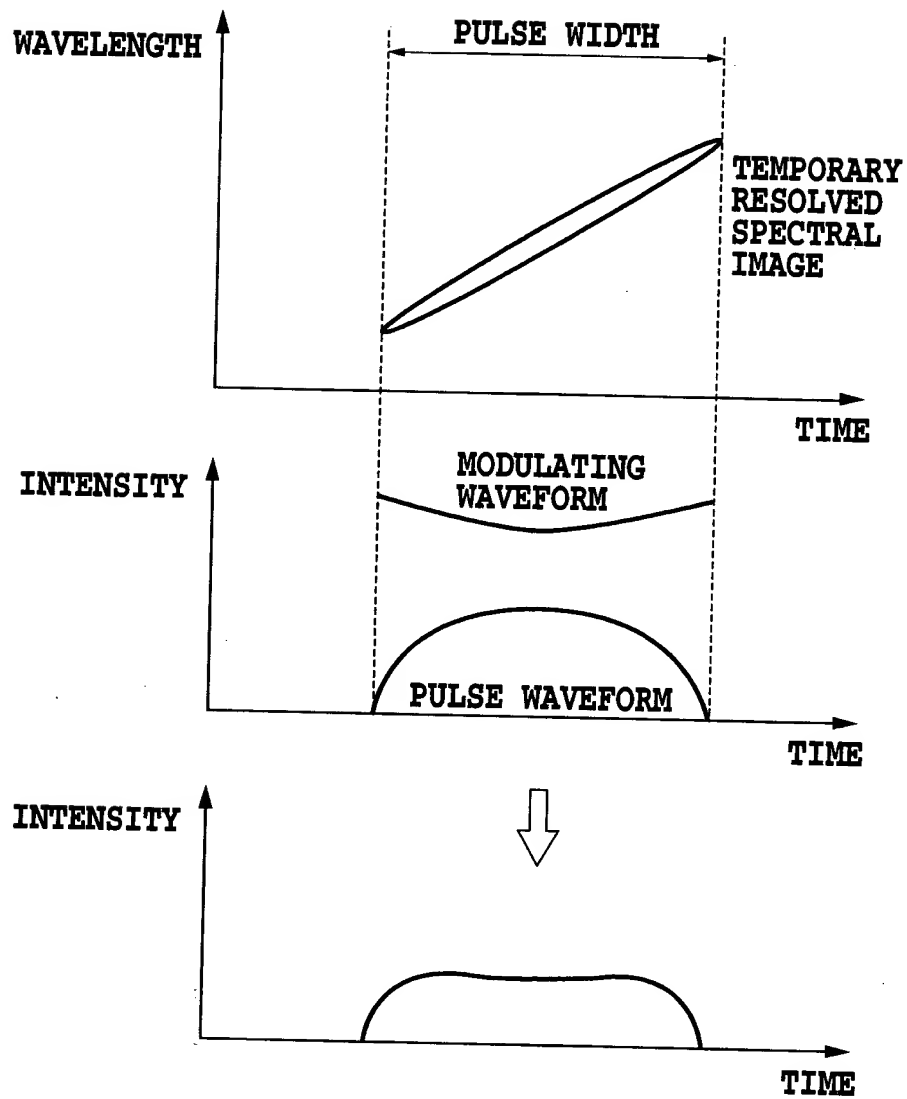


FIG.20

0900613-070601

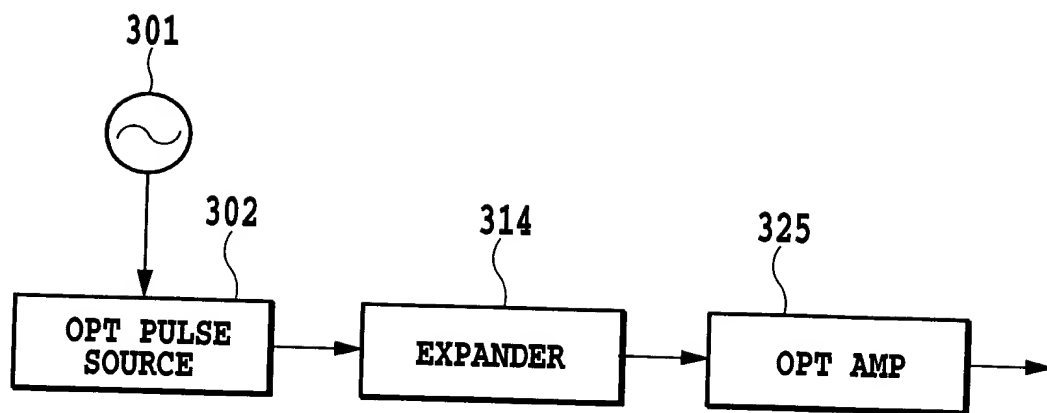


FIG.21

T09070" E900650

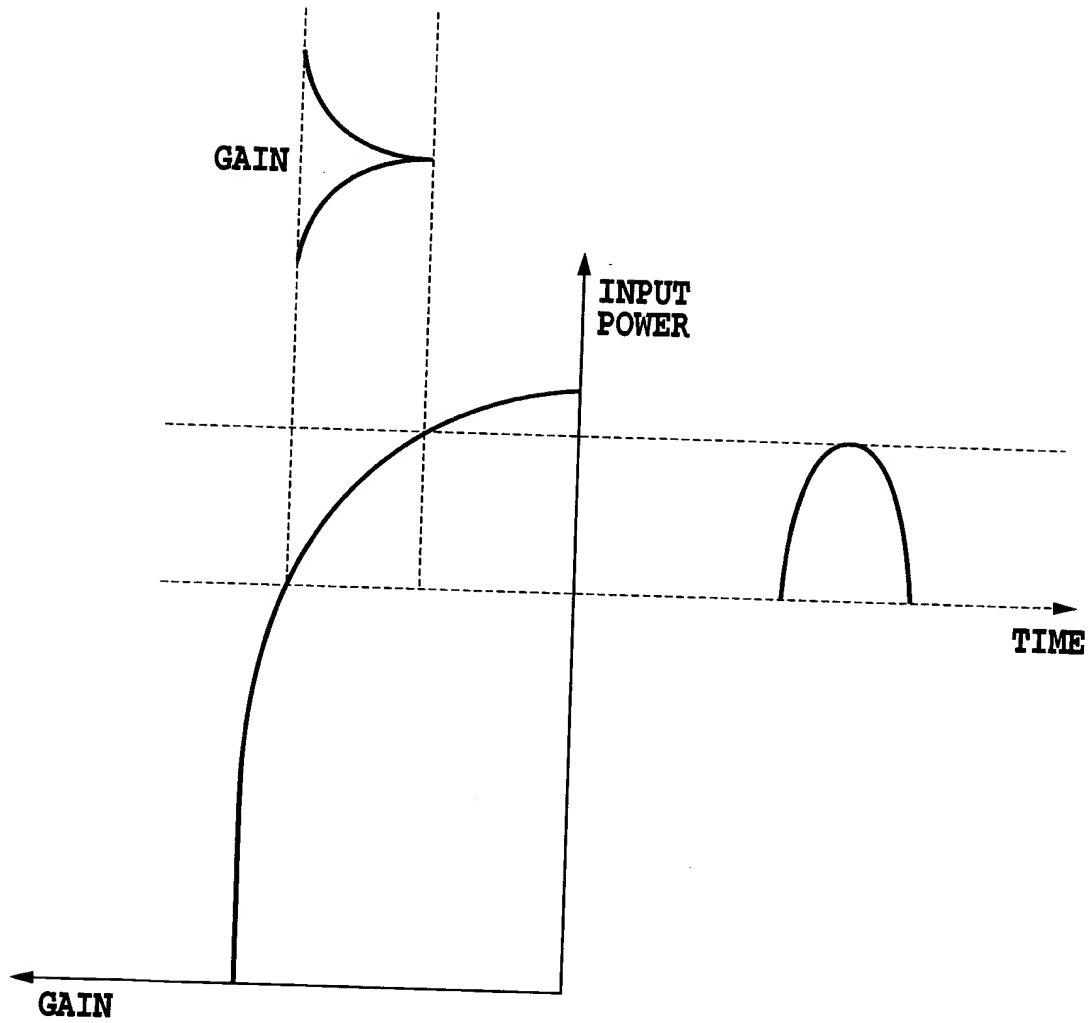


FIG.22

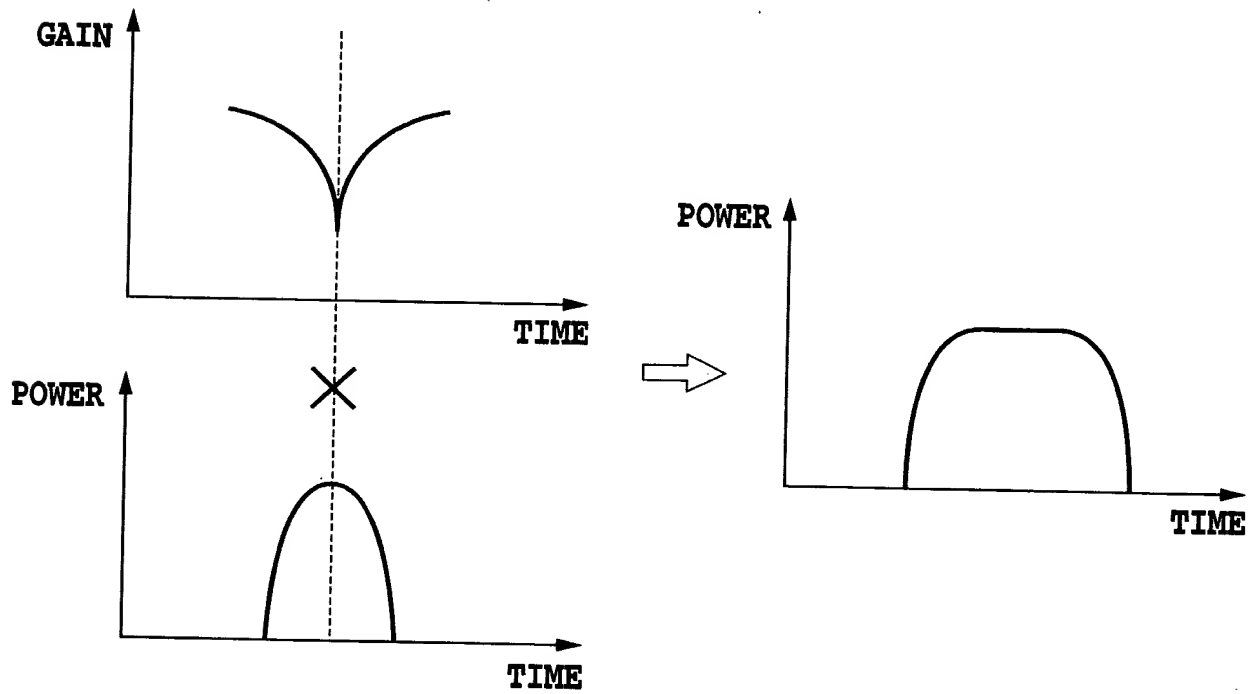


FIG.23

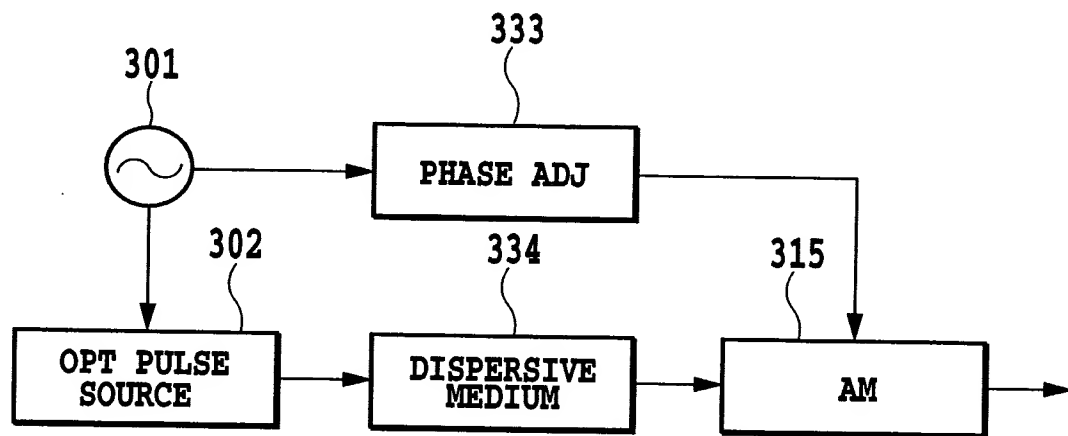


FIG.24

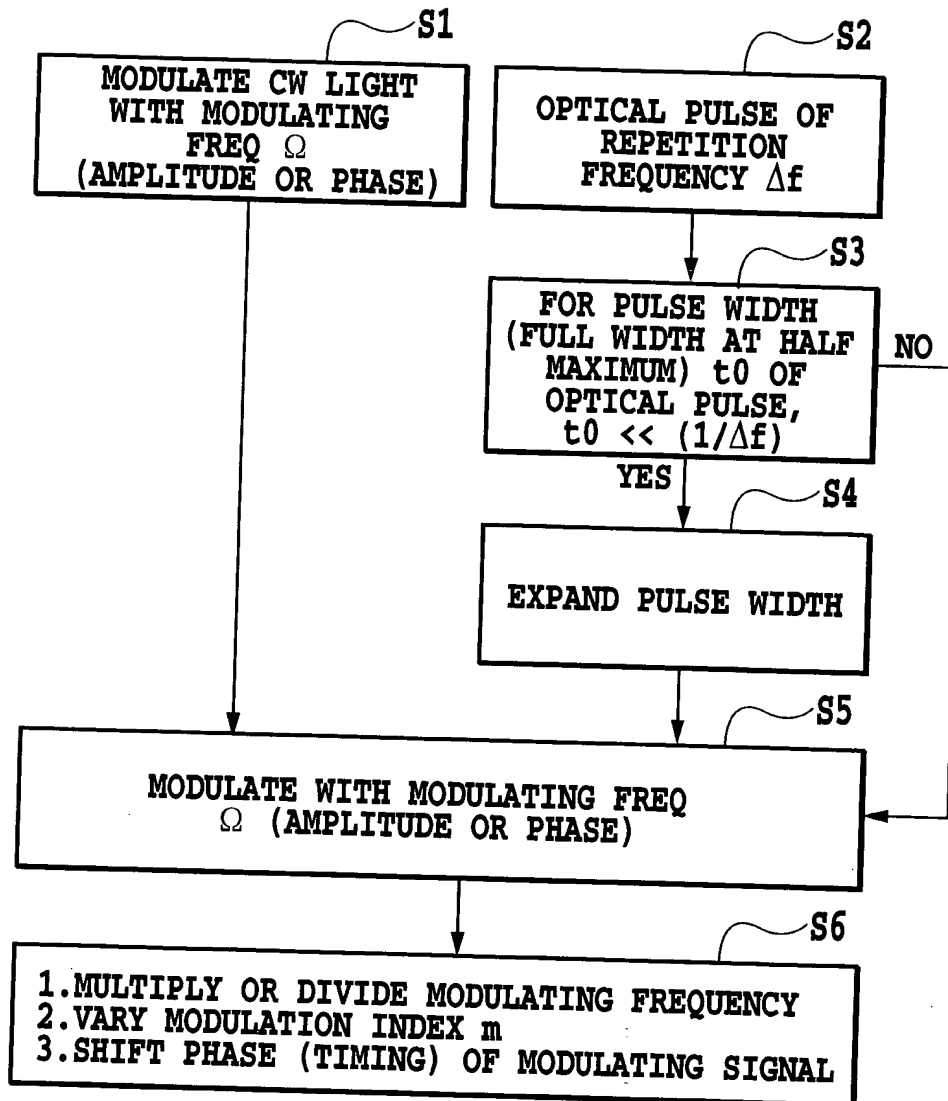


FIG.25

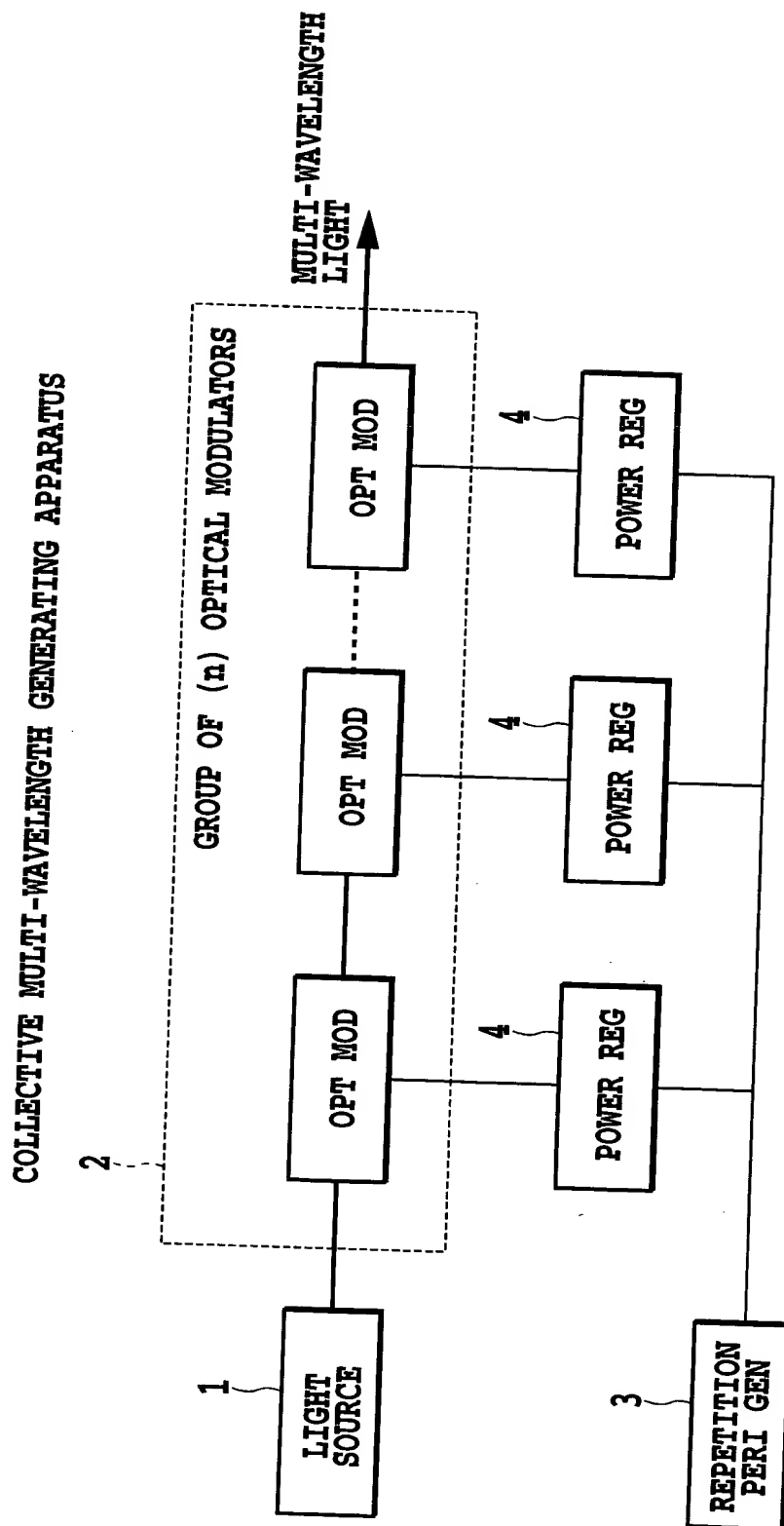


FIG.26

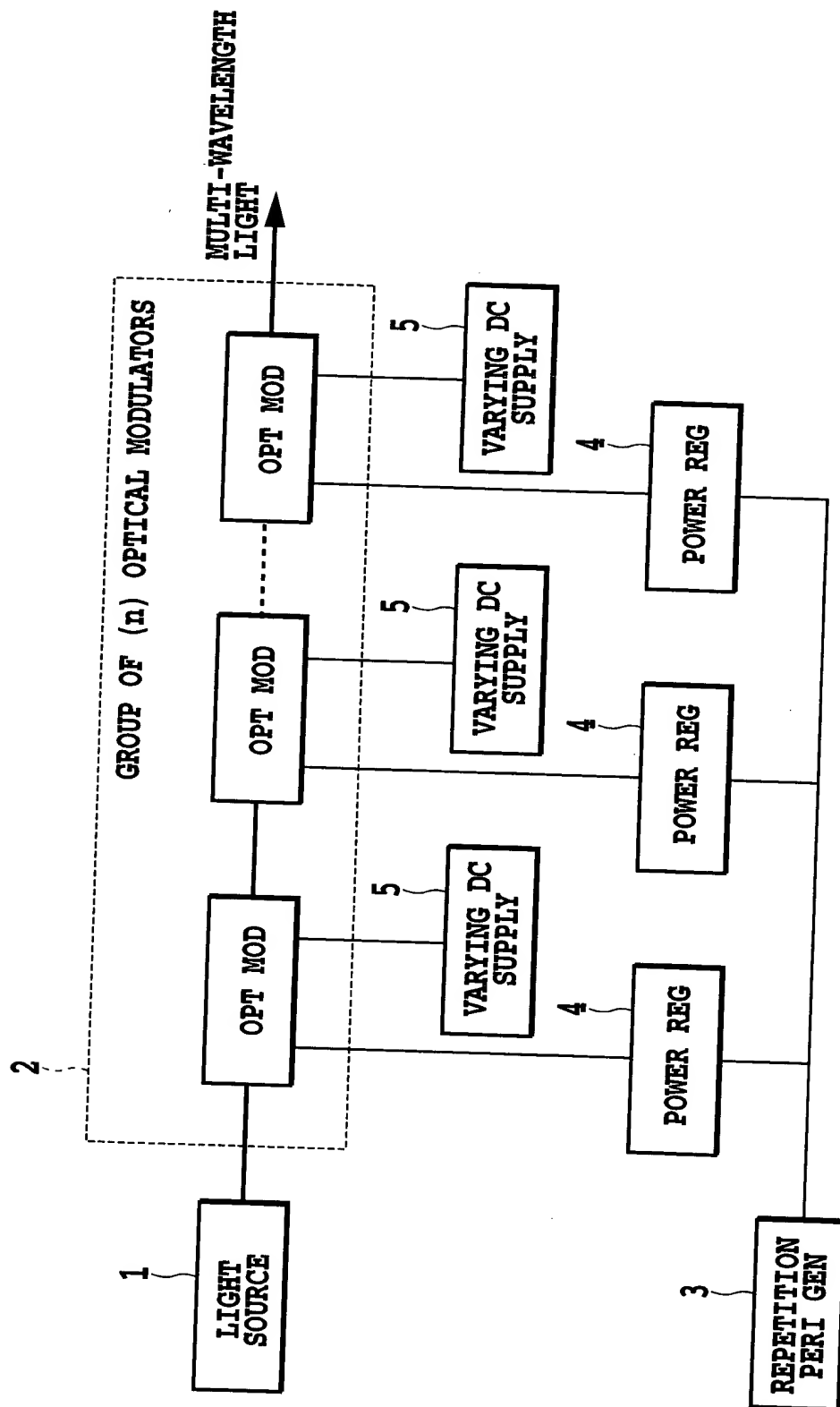


FIG. 27

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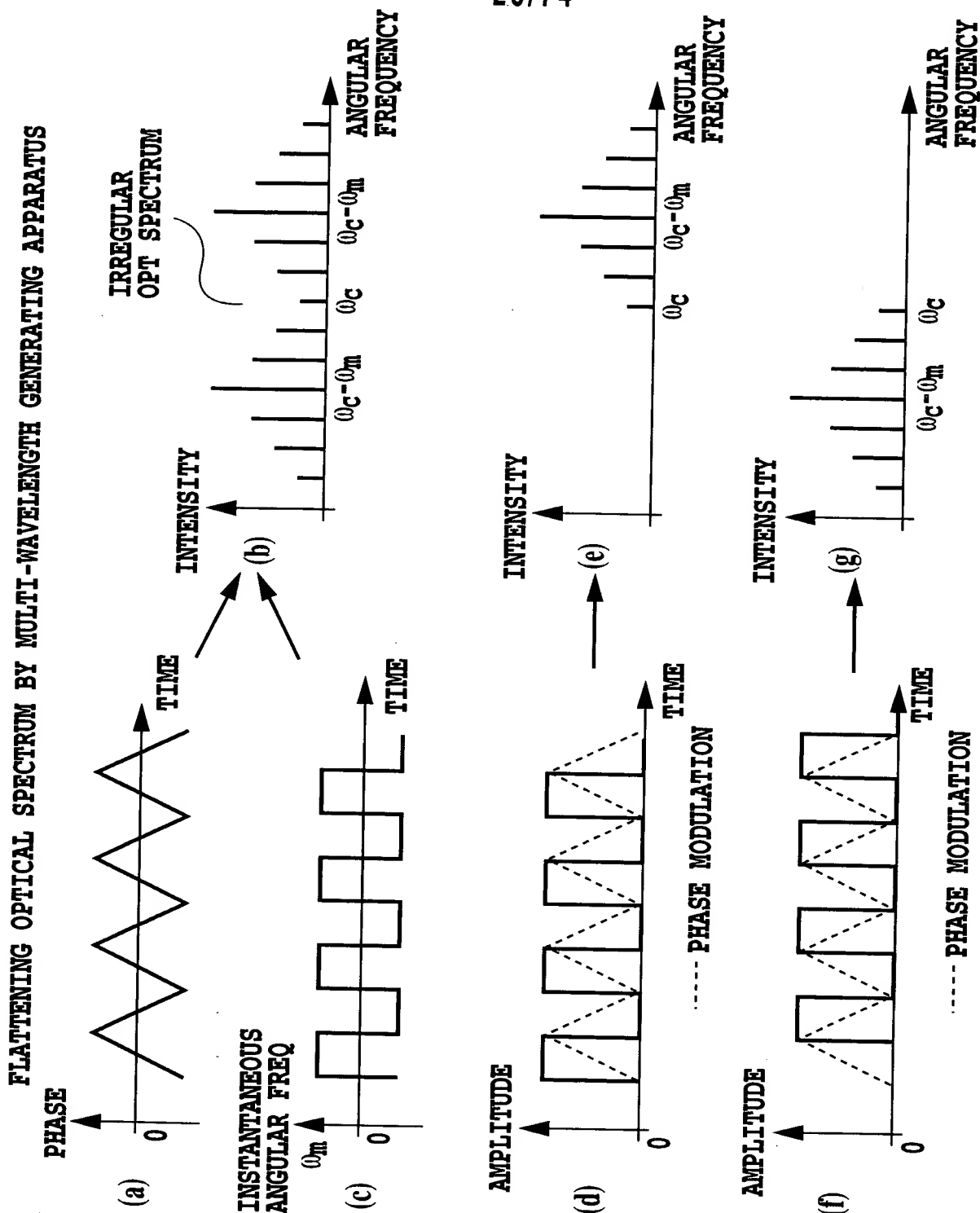


FIG.28

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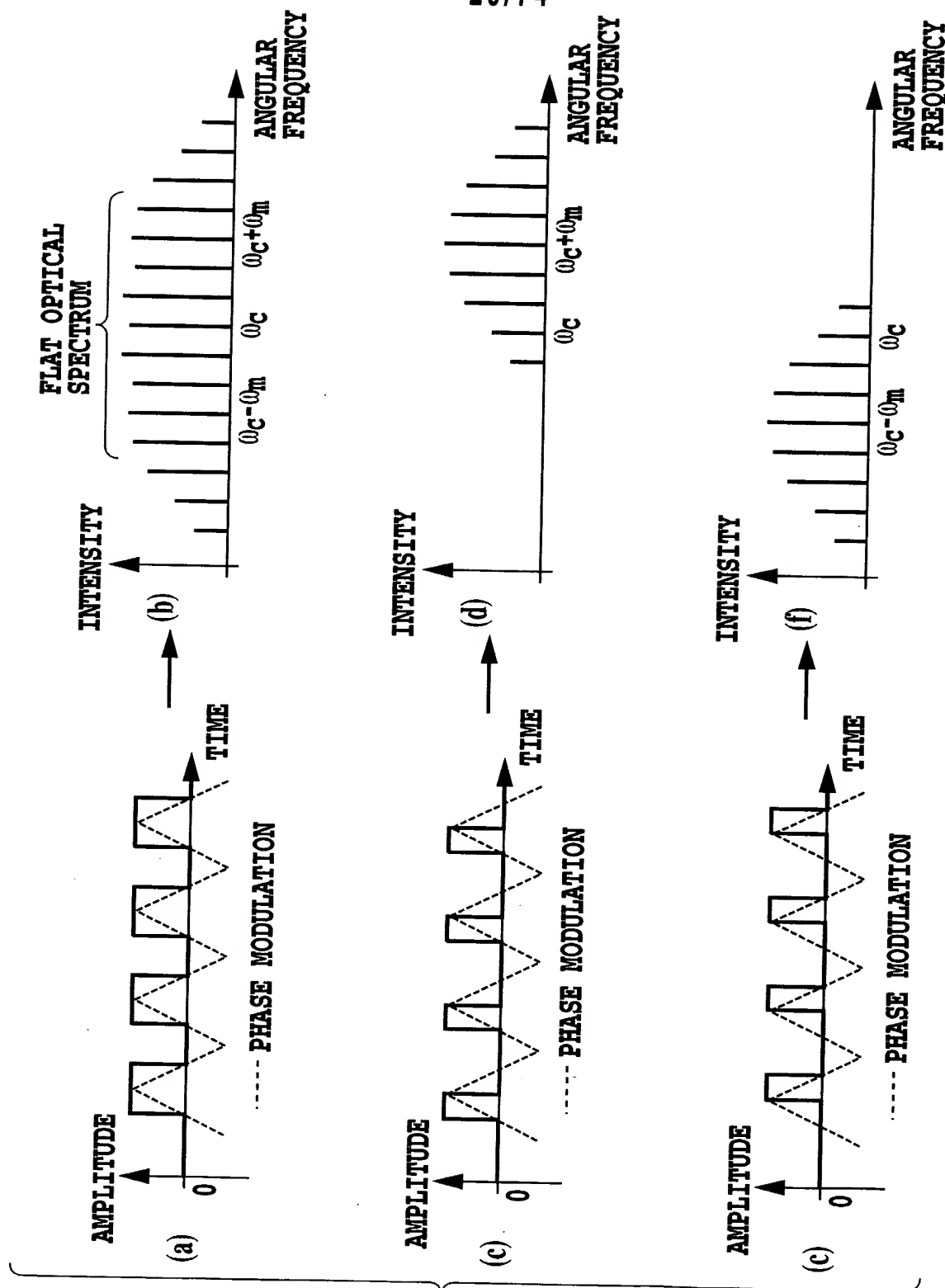


FIG.29

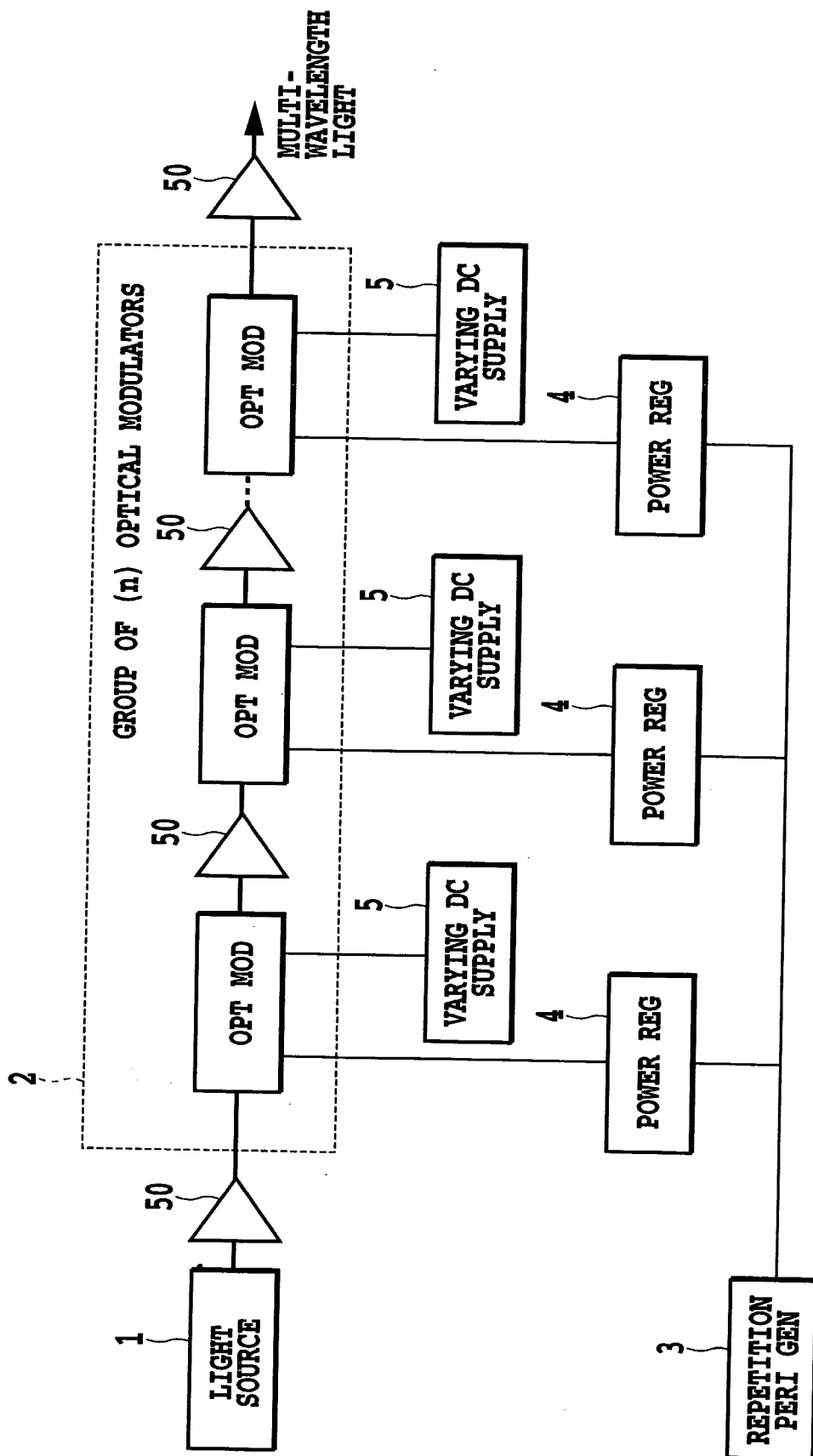


FIG.30

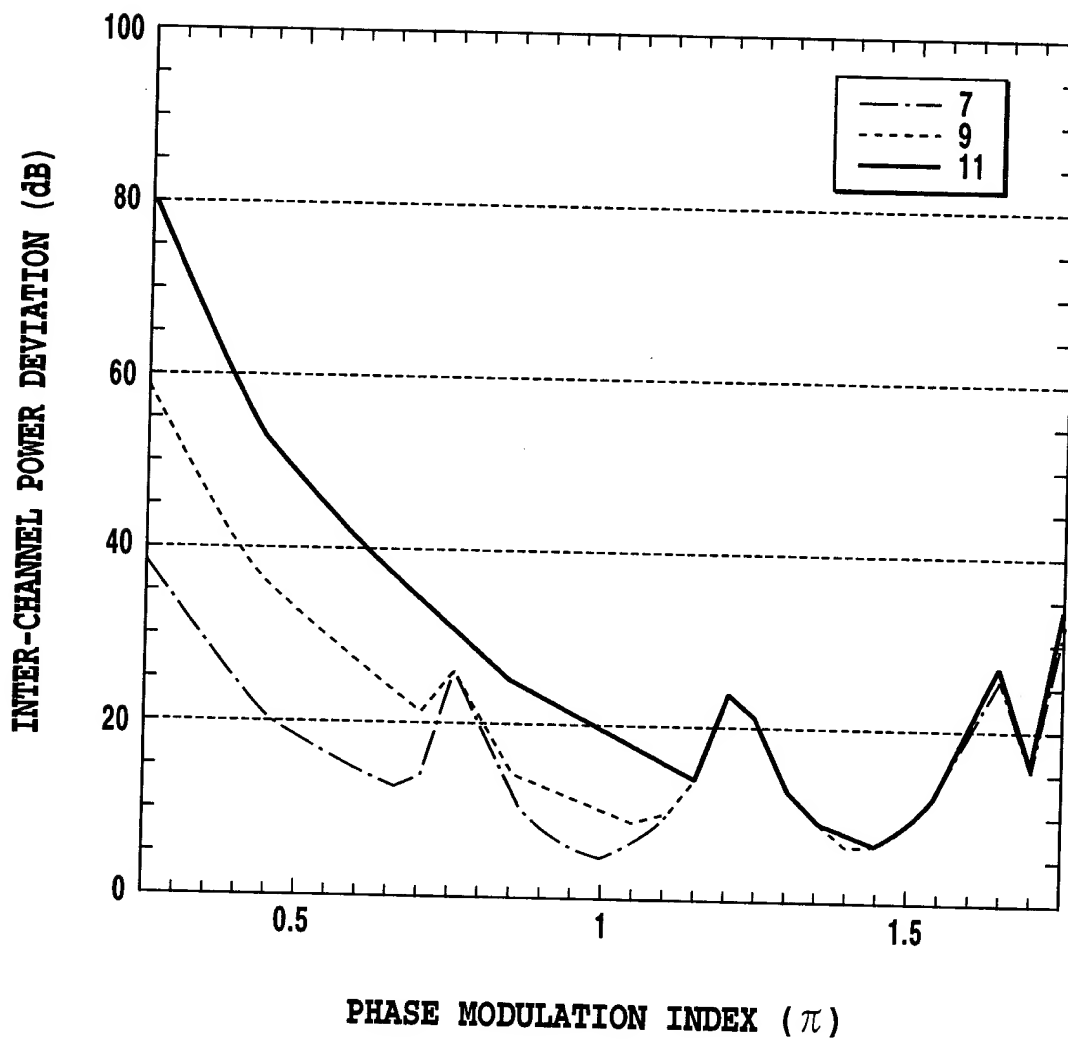


FIG.31

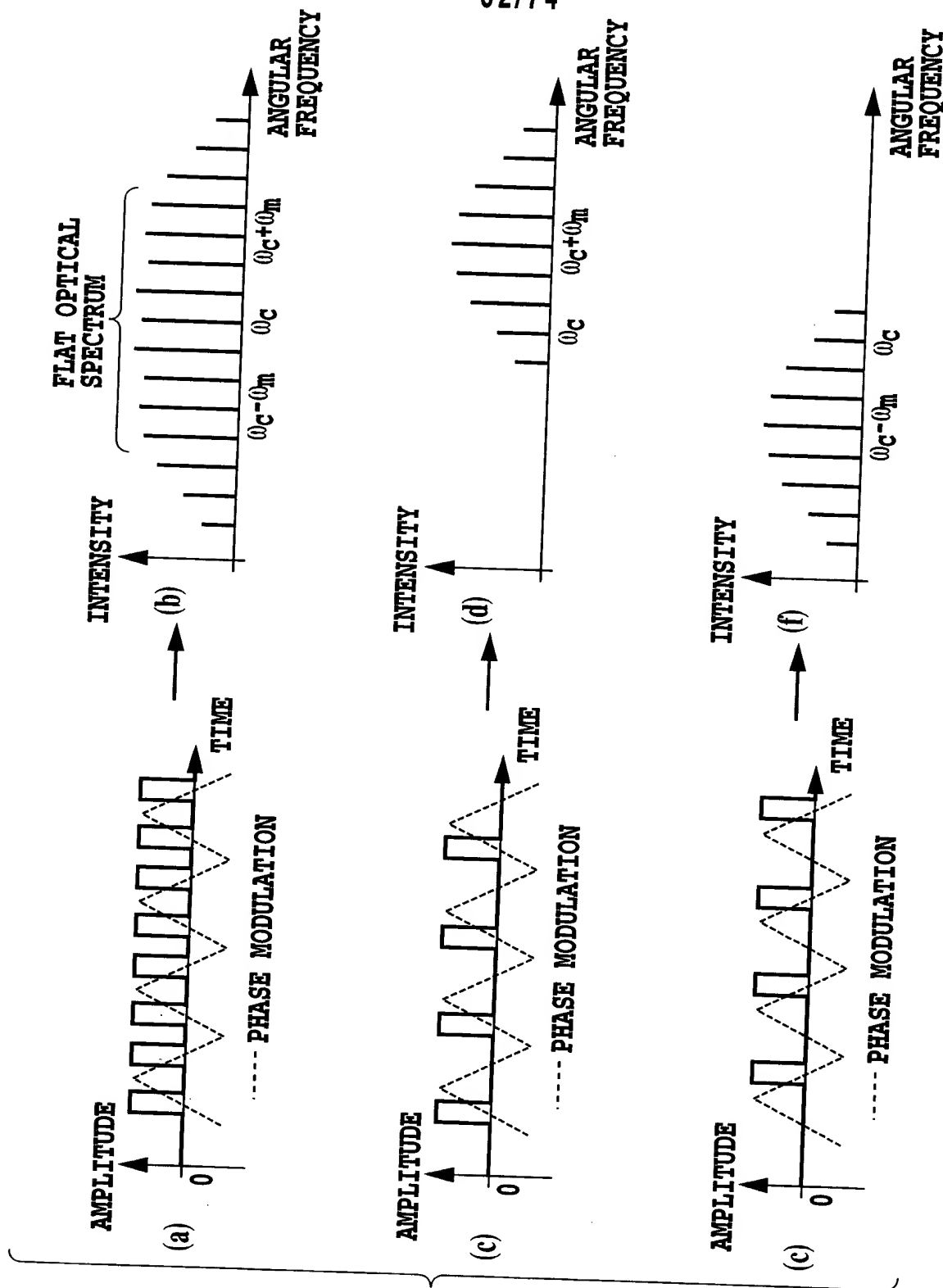


FIG. 32

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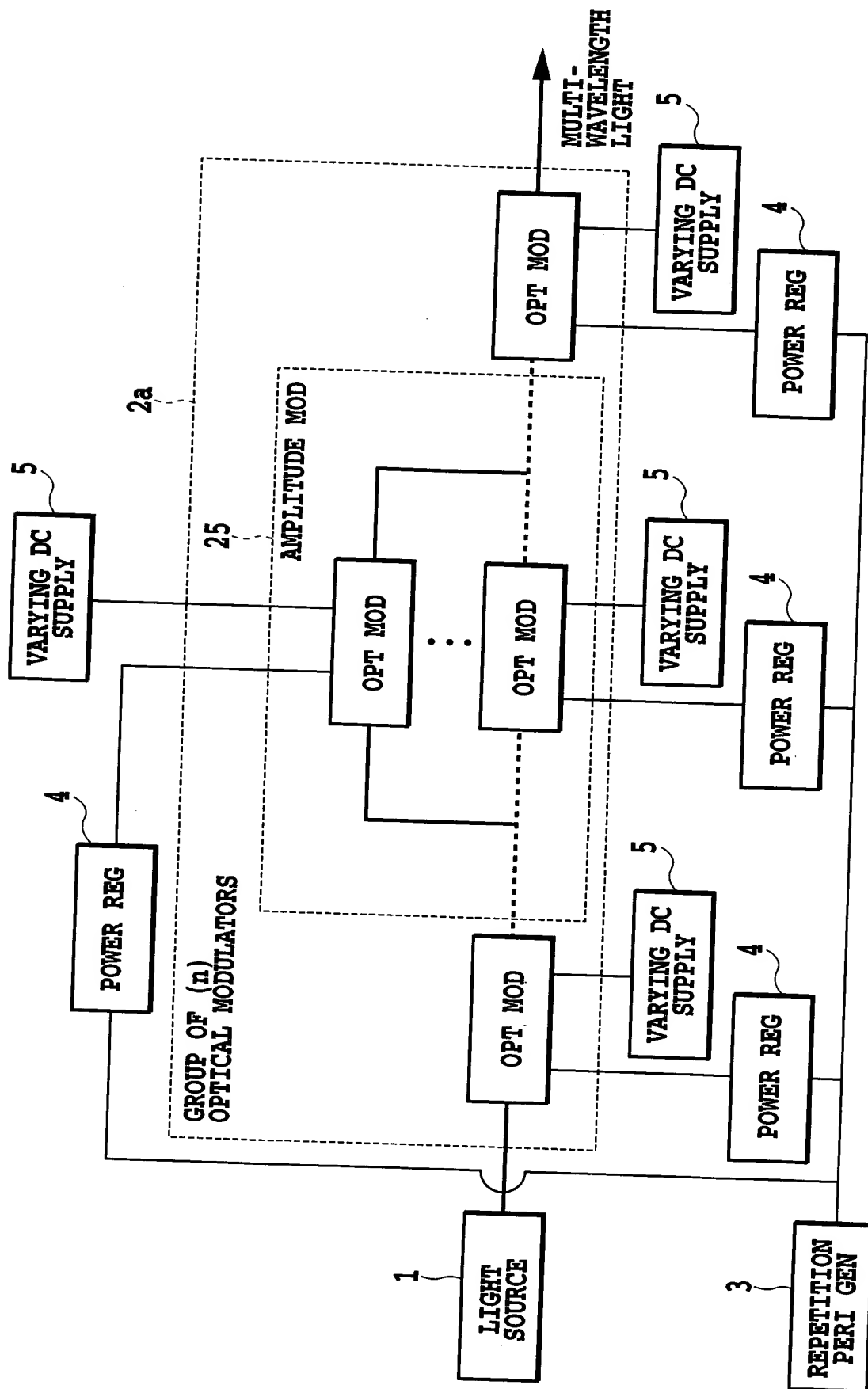


FIG.33

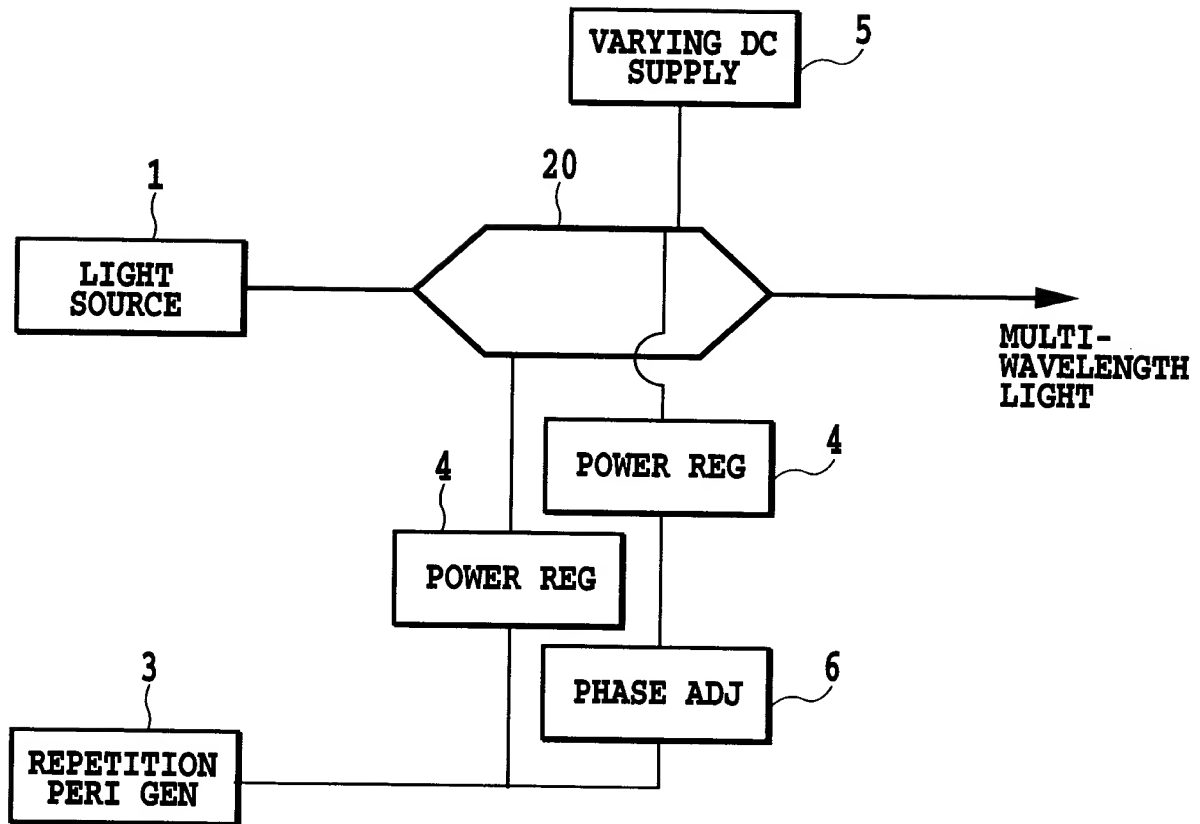


FIG.34

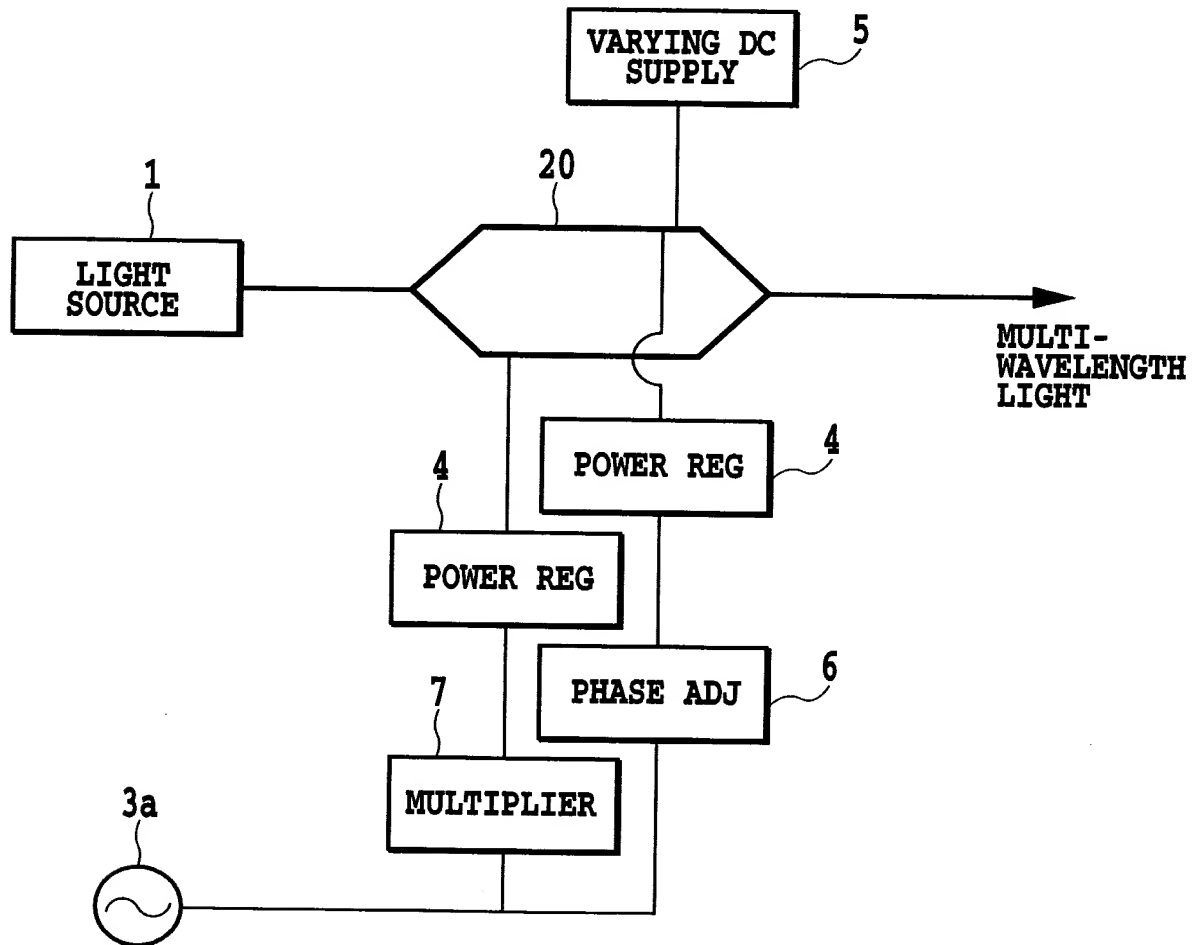


FIG.35

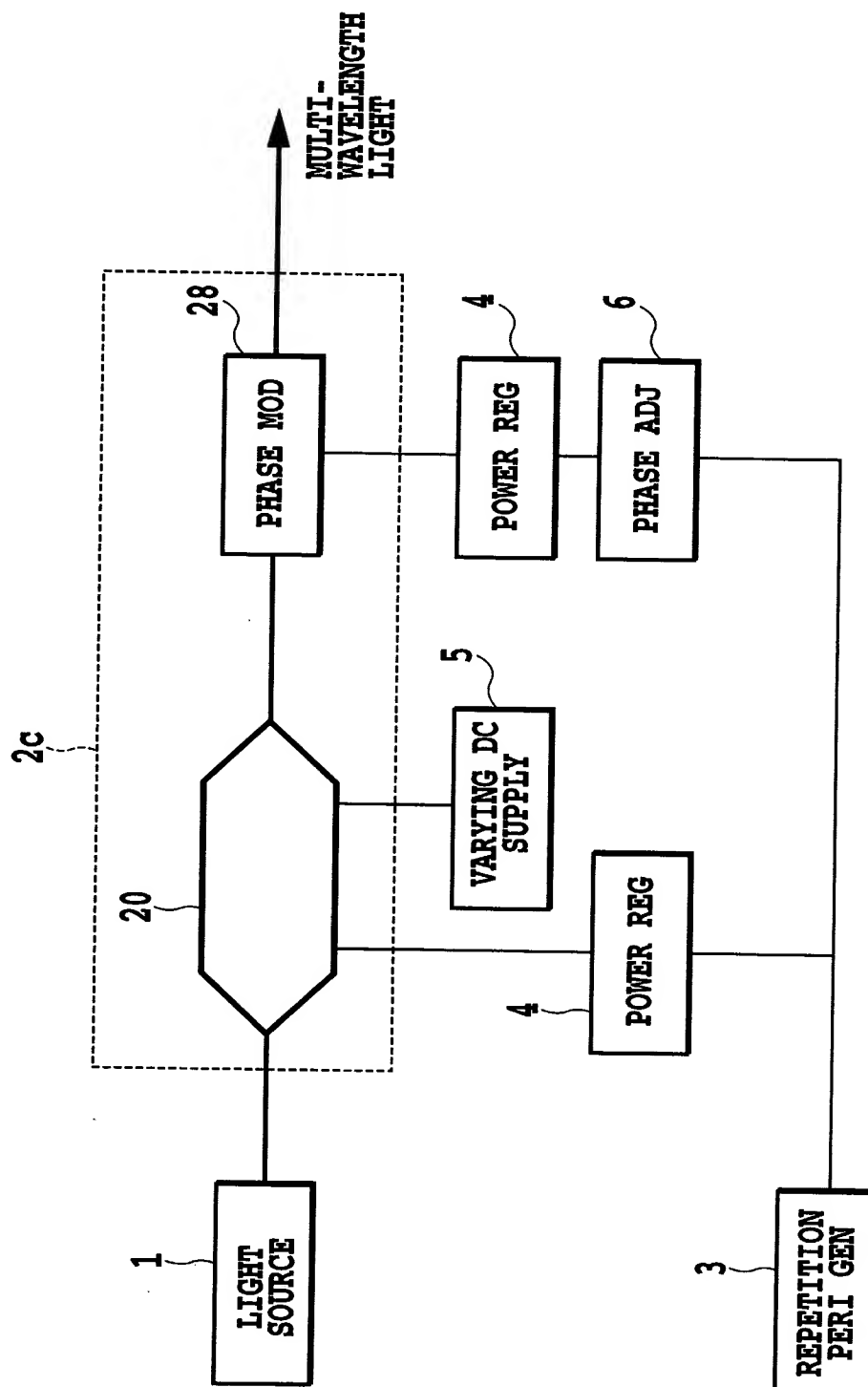


FIG.36

EXPERIMENTAL RESULT USING MACH-ZEHNDER

2000 Apr 04 15:30

▽:192.682THz -14.31dBm ▽-▽n:
 ▽
 ▽
 ▽

A:FIX /BLK

B:WRITE /BLK

C:FIX /BLK

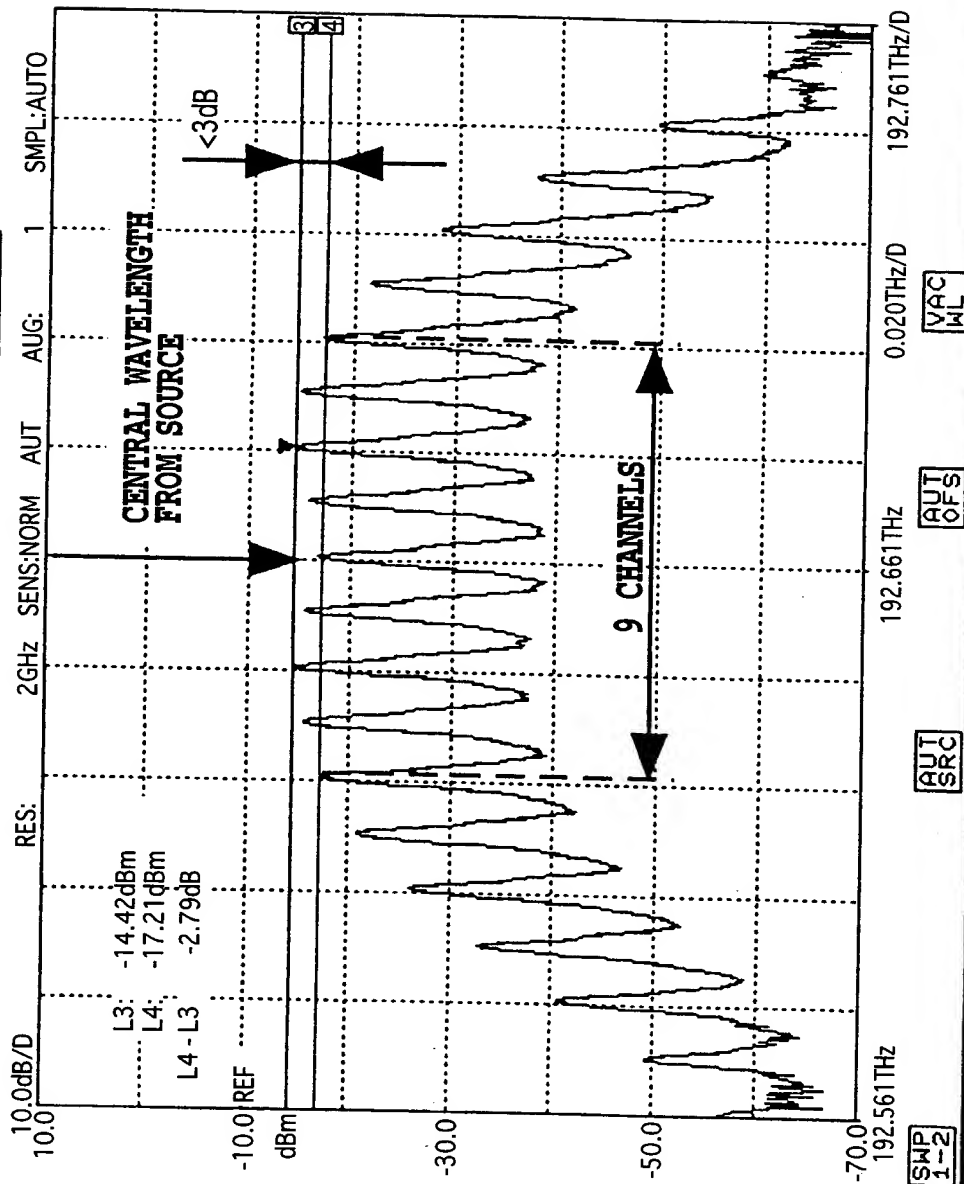


FIG.37

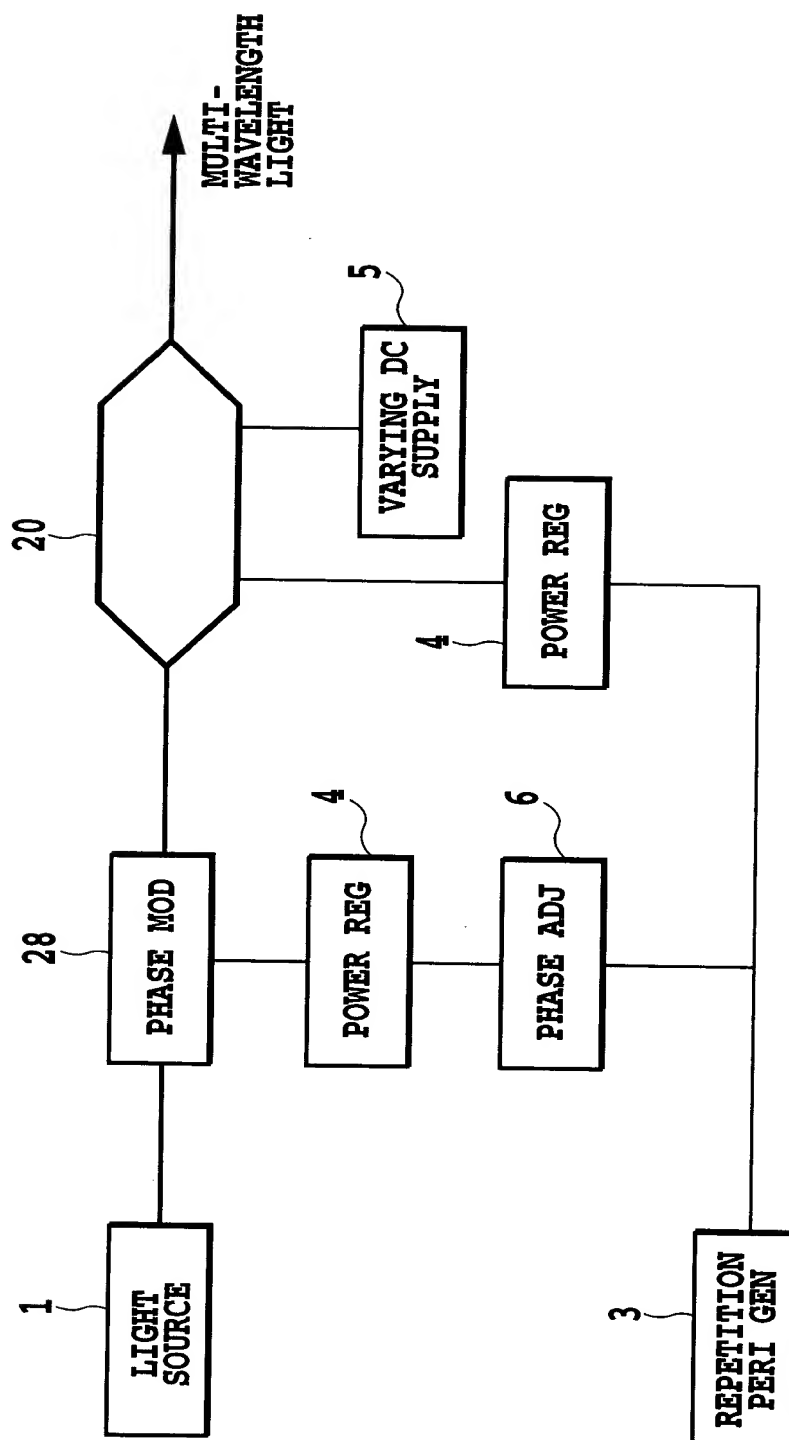


FIG.38



FIG. 39

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EXPERIMENTAL RESULT USING EA IM

2000 Apr 07 14:33

A:FIX /BLK

B:WRITE /DSF

C:FIX /BLK

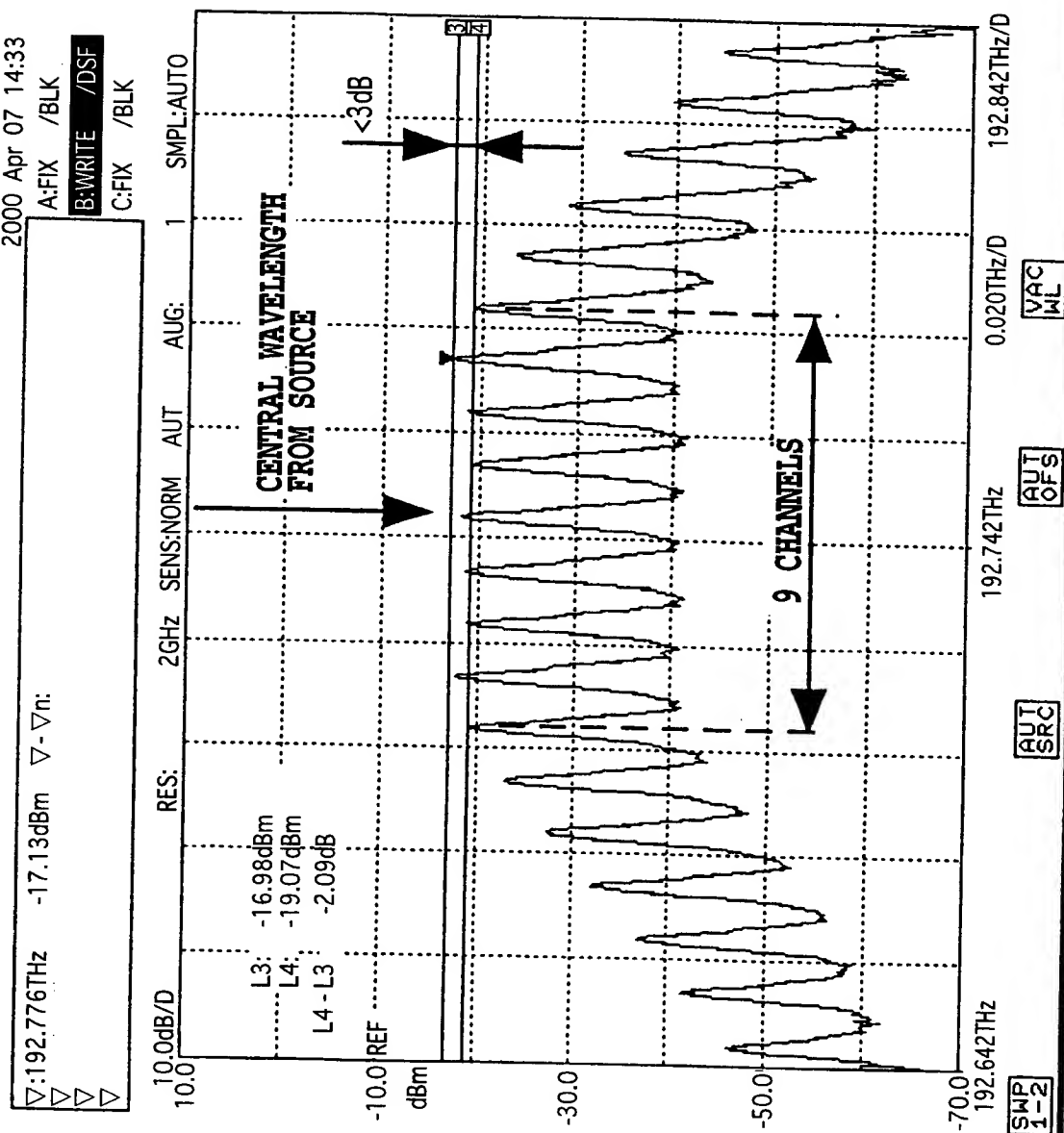


FIG. 40

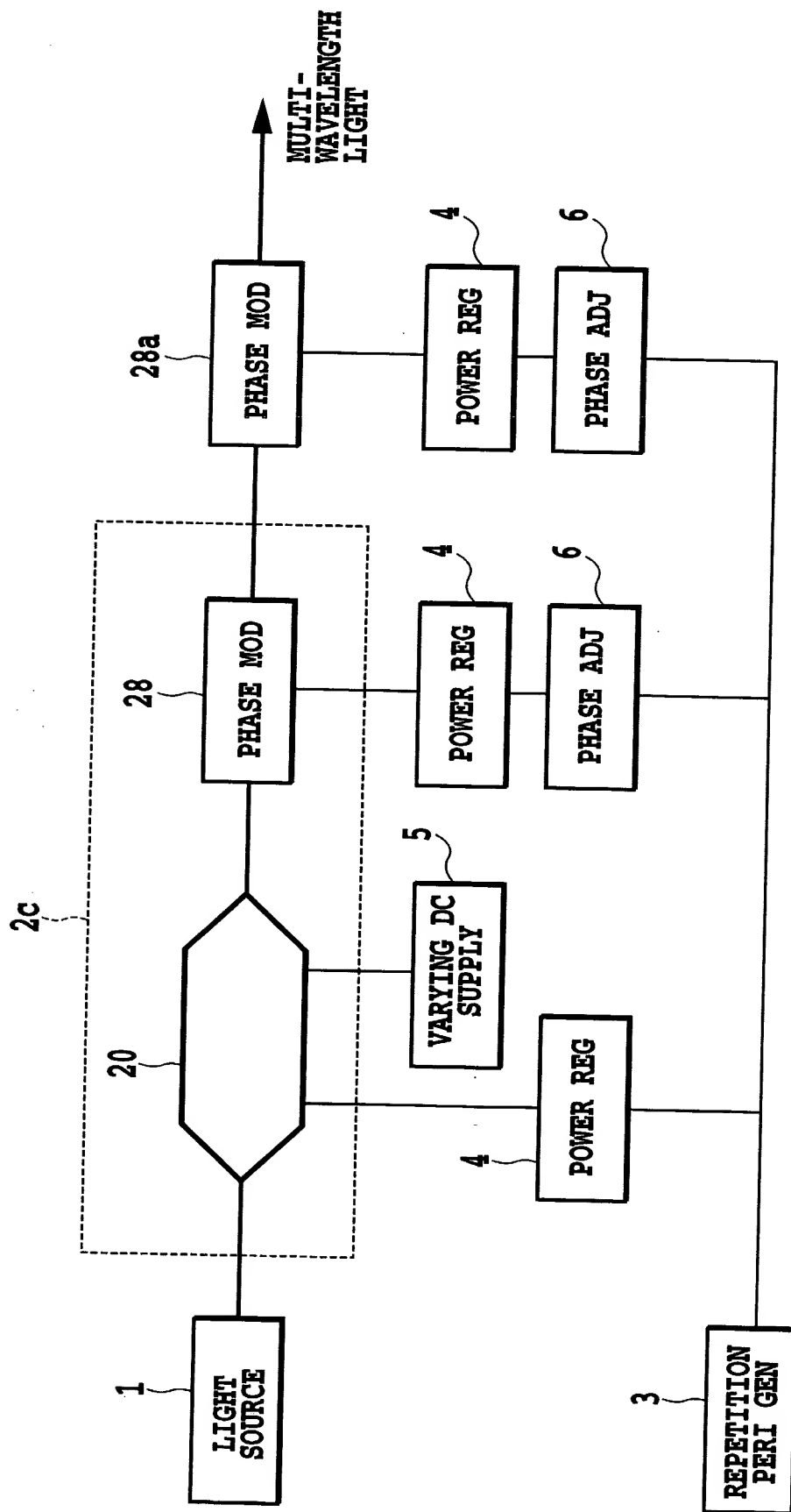


FIG.41

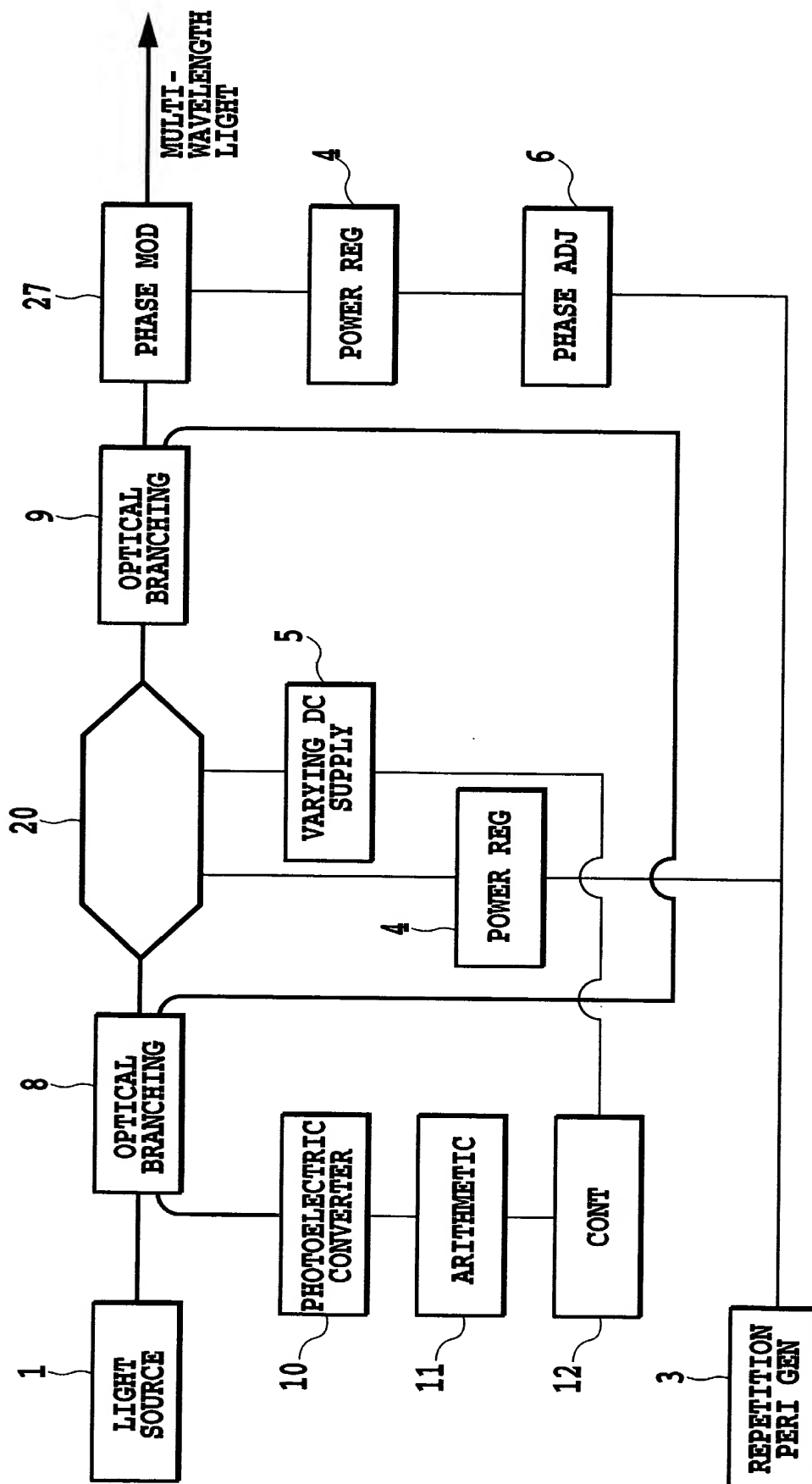


FIG.42

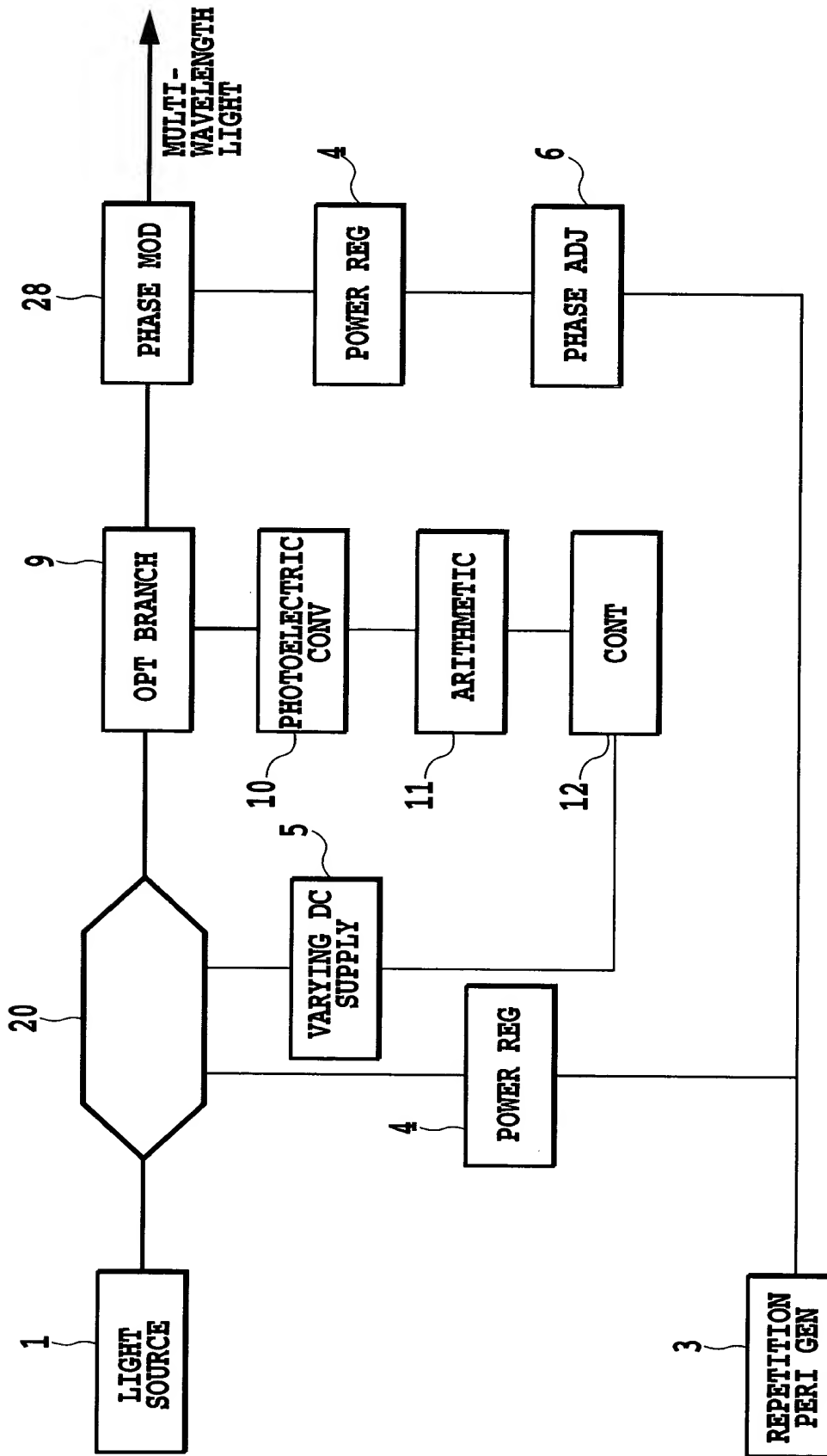


FIG.43

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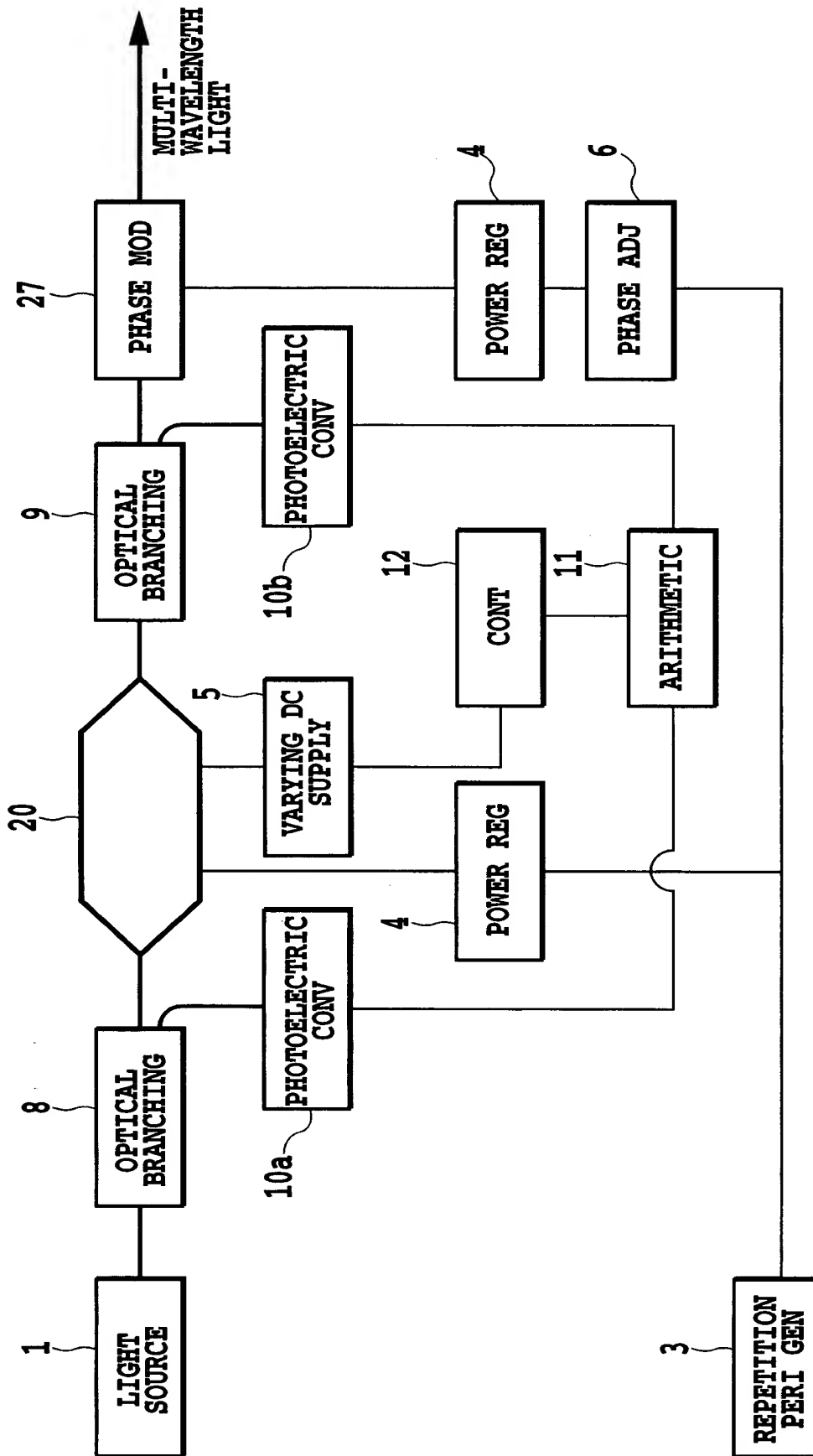


FIG.44

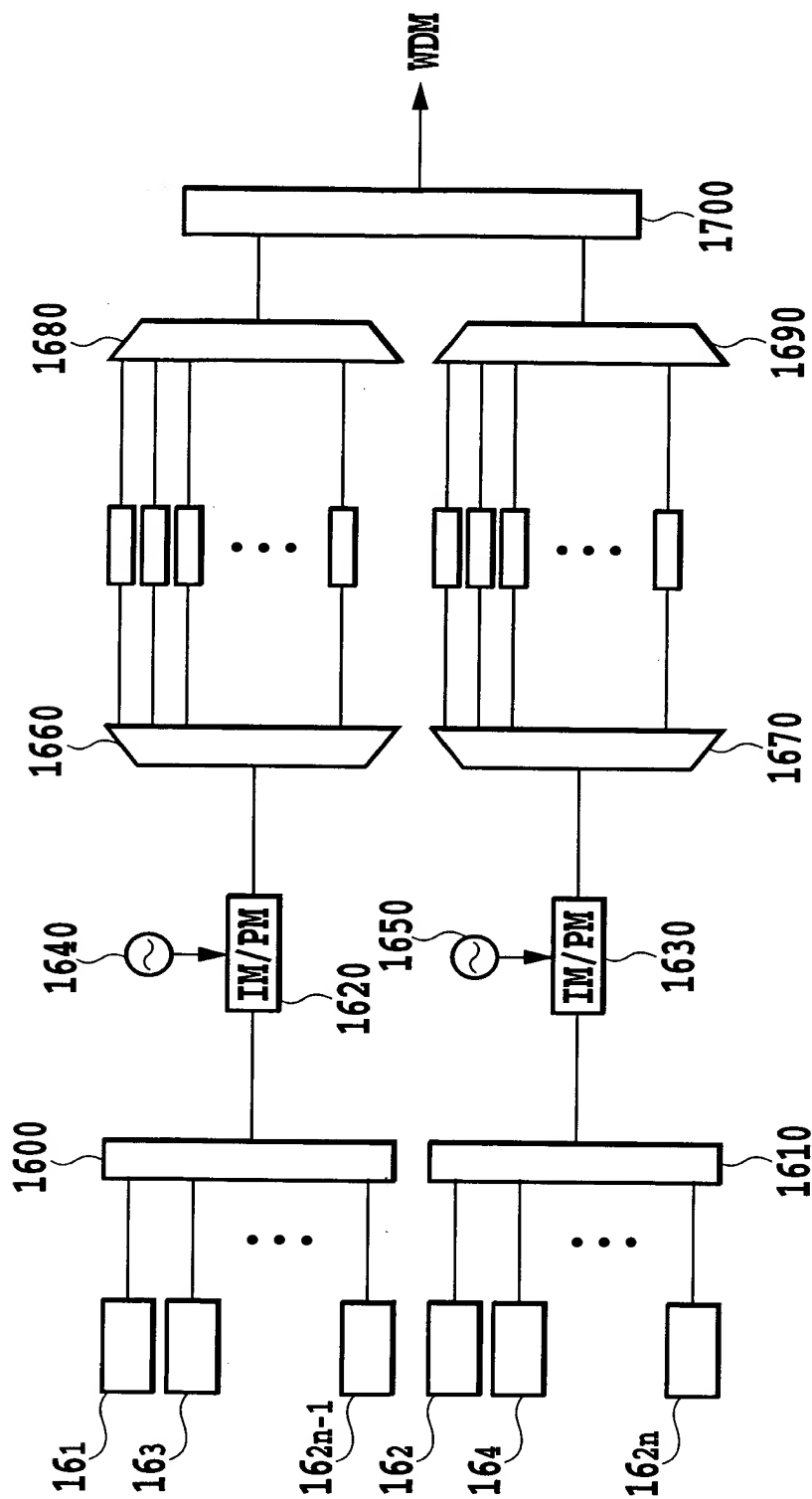


FIG. 45

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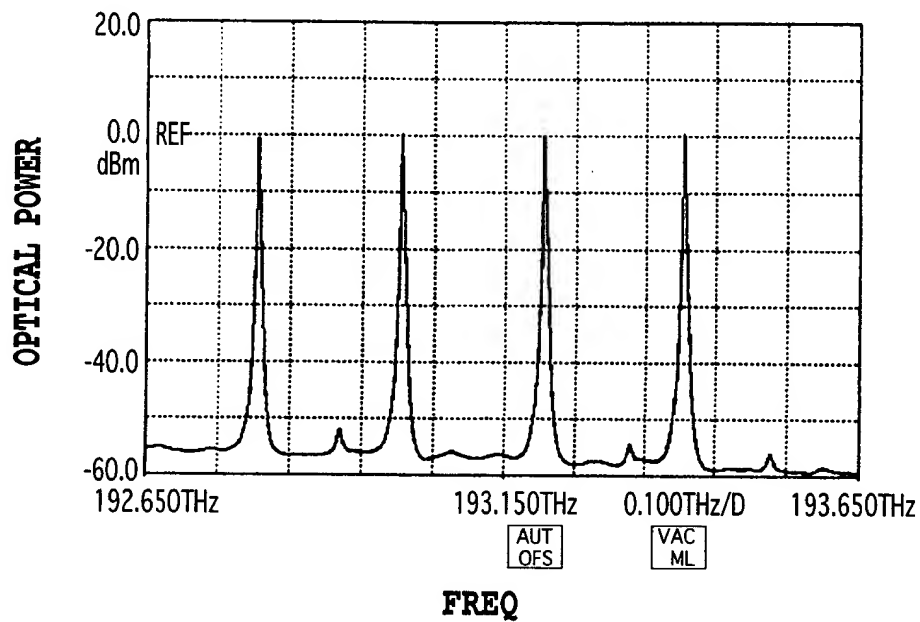


FIG.46A

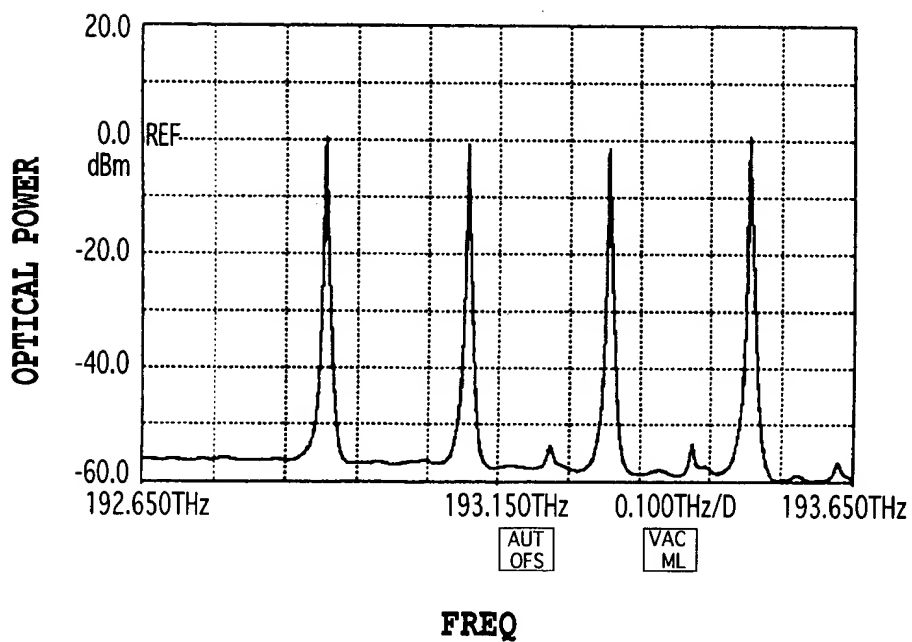


FIG.46B

FO9020"EF900660

105020 ET900660

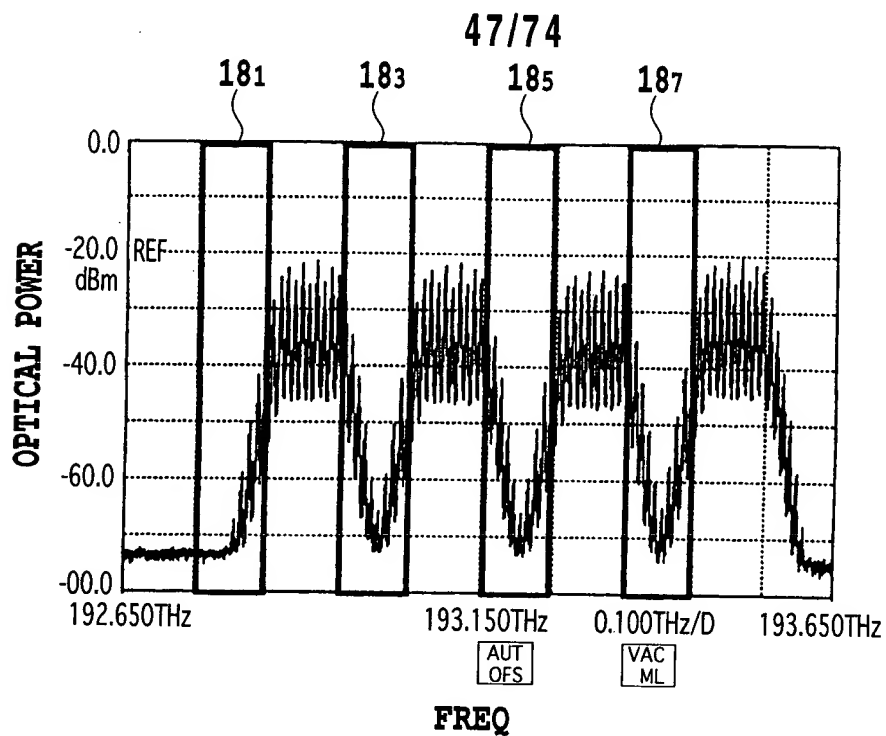


FIG.47A

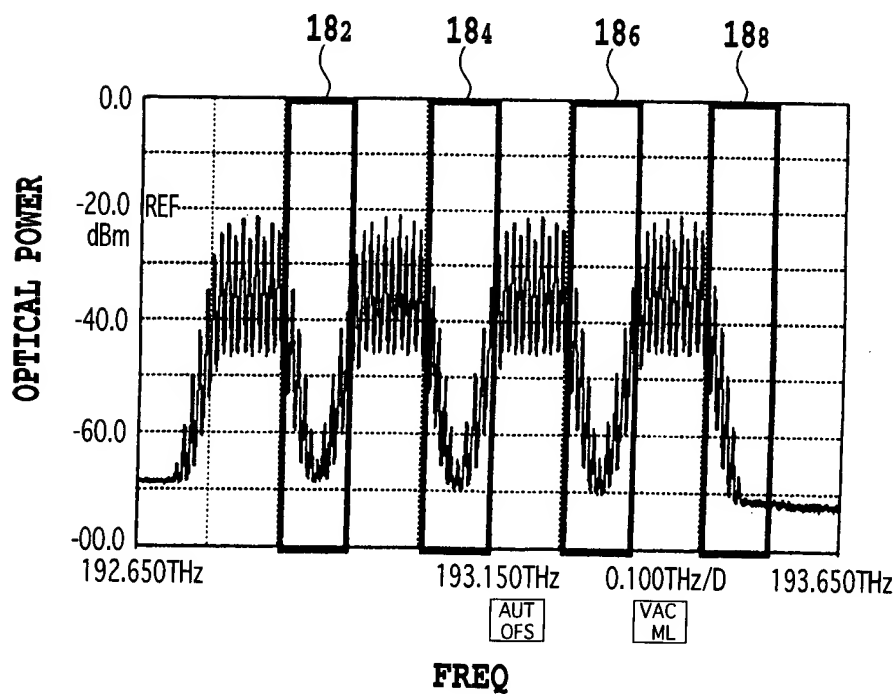


FIG.47B

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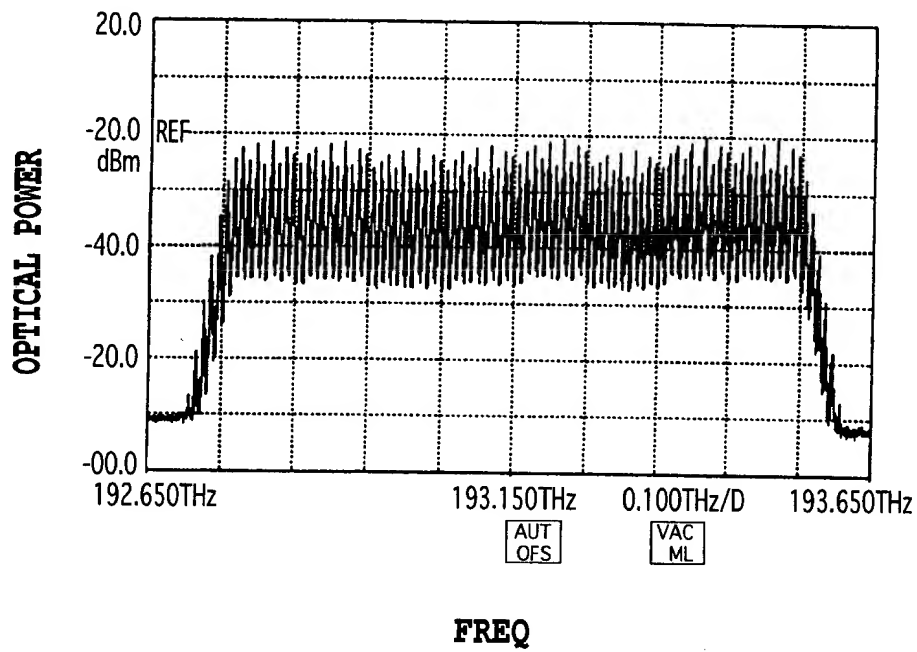
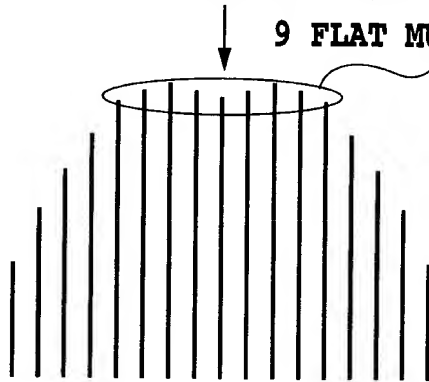


FIG.48

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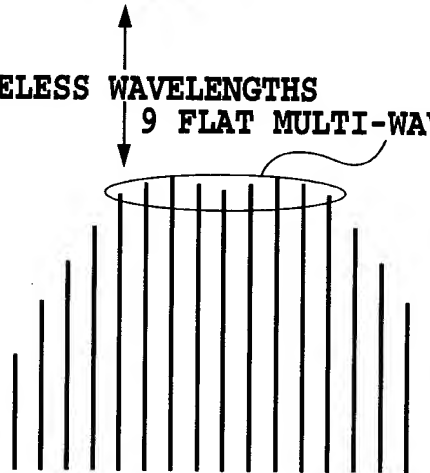
WAVELENGTHS OF
INCIDENT LIGHTS TO
FIRST MODULATING SECTION

9 FLAT MULTI-WAVELENGTH SIGNALS



USELESS WAVELENGTHS

9 FLAT MULTI-WAVELENGTH SIGNALS



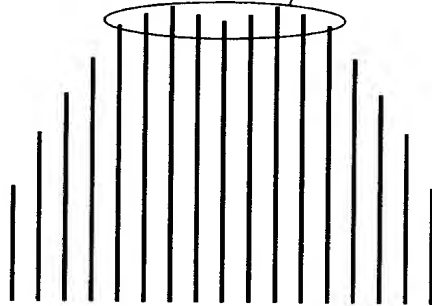
WAVELENGTHS OF
INCIDENT LIGHTS TO
SECOND MODULATING SECTION

FIG.49A

09900613 070601
109070" ET90060

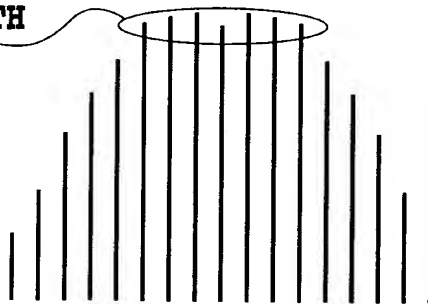
WAVELENGTHS OF
INCIDENT LIGHTS TO
FIRST MODULATING SECTION

9 FLAT MULTI-WAVELENGTH SIGNALS



NO USELESS WAVELENGTHS

7 FLAT
MULTI-WAVELENGTH
SIGNALS



WAVELENGTHS OF
INCIDENT LIGHTS TO
SECOND MODULATING SECTION

FIG.49B

0900613-070601

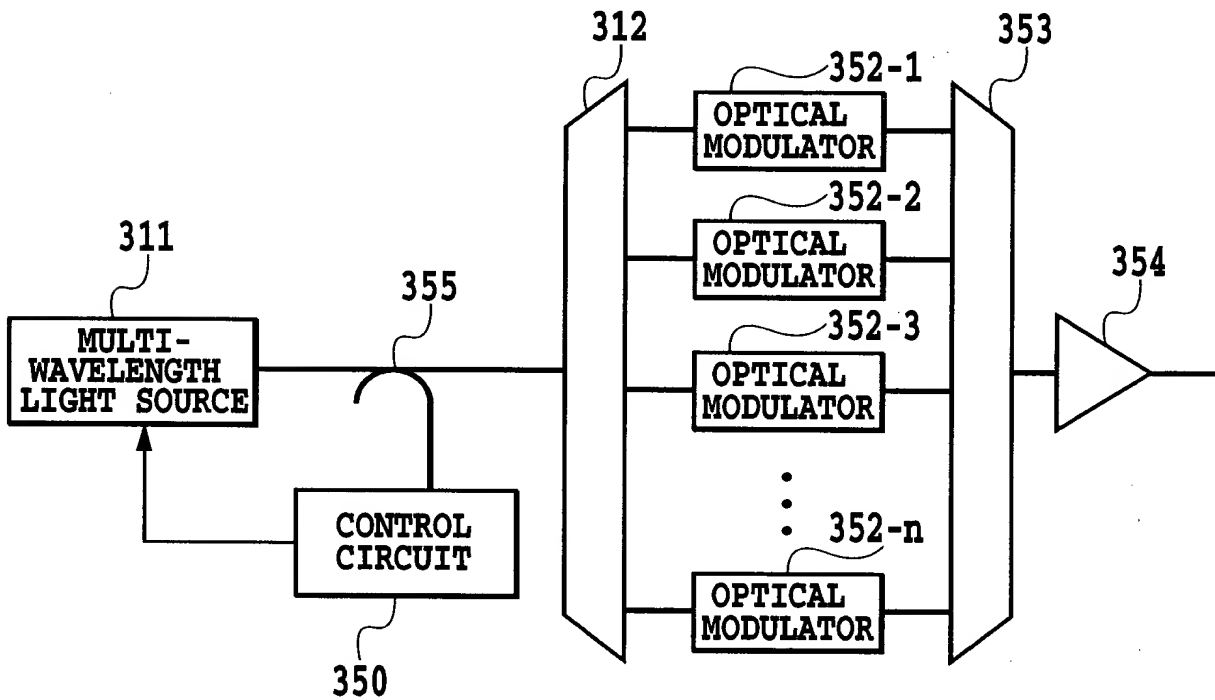


FIG.50

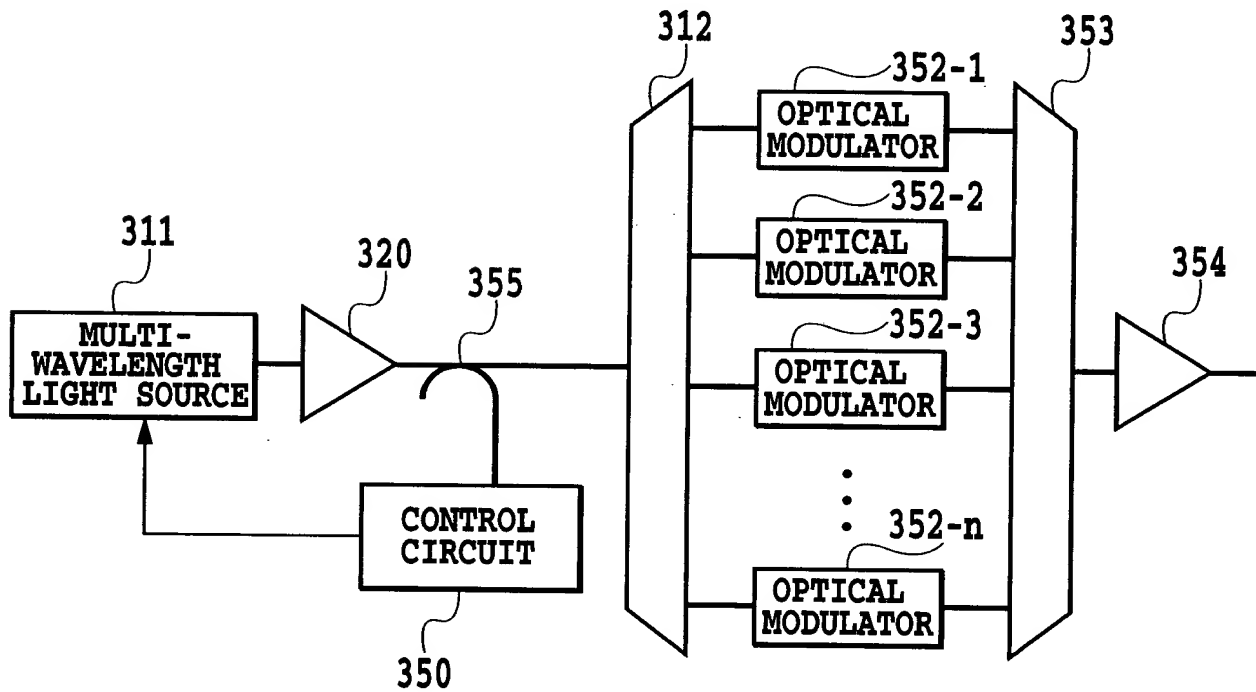


FIG.51

WAVELENGTH-MULTIPLEXED TRANSMISSION SYSTEM USING
COHERENT MULTI-WAVELENGTH SIGNAL GENERATING APPARATUS

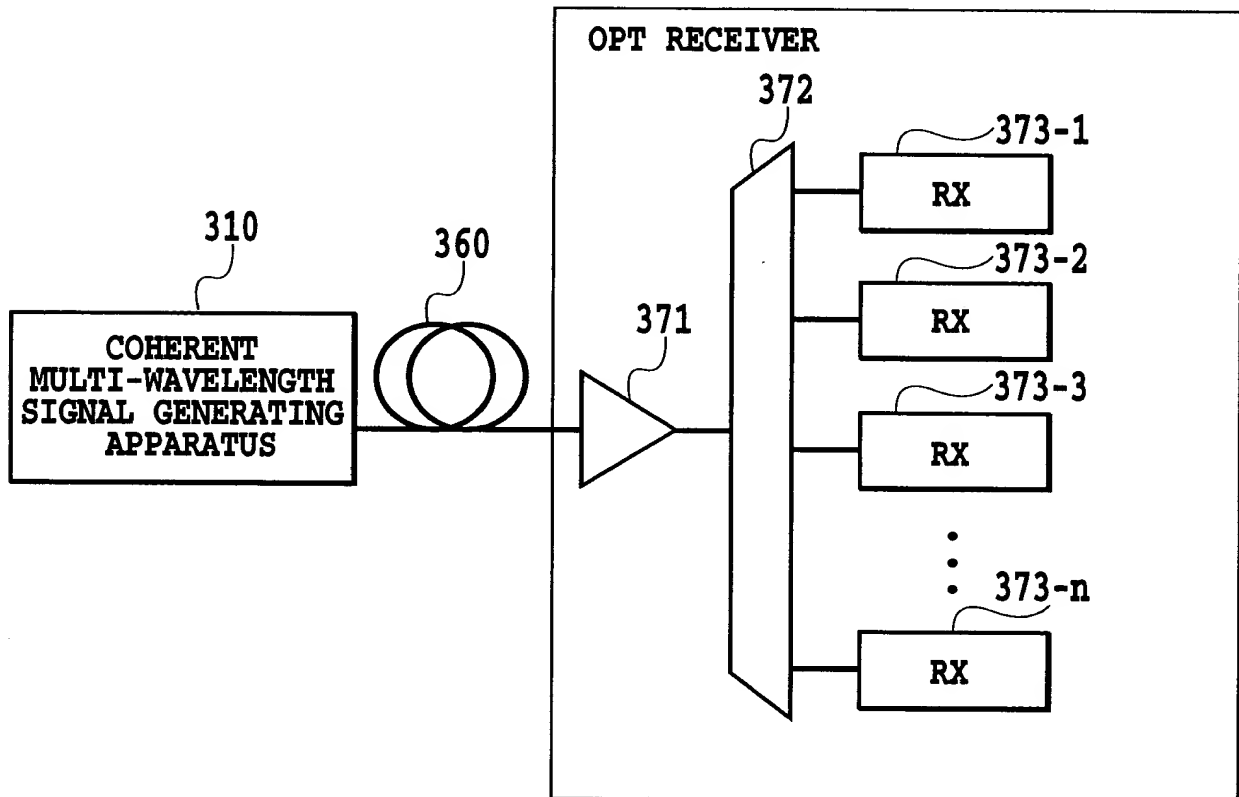


FIG.52

EXAMPLE OF FIRST CONFIGURATION OF
MULTI-WAVELENGTH LIGHT SOURCE

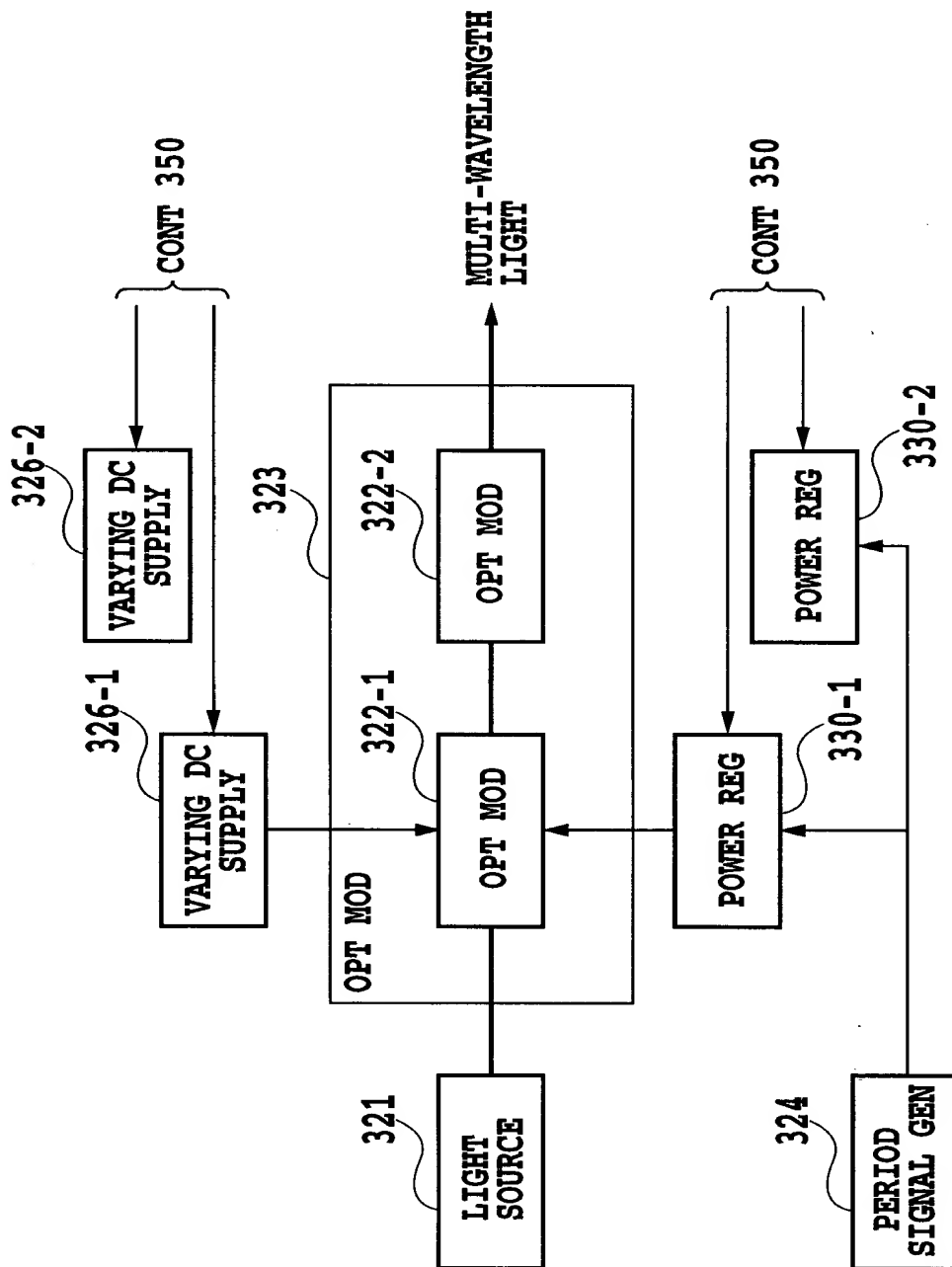
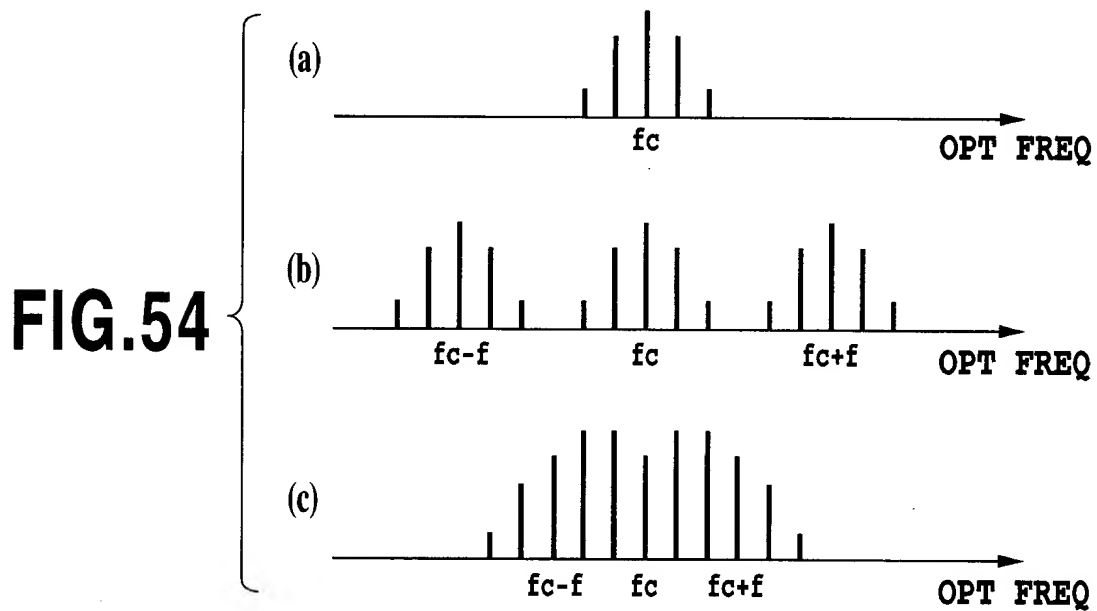


FIG.53

FIG. 53 PRINCIPLE OF GENERATION OF
MULTI-WAVELENGTH LIGHT FROM
MULTI-WAVELENGTH LIGHT SOURCE



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T09070.F1900660

SHAPE CONTROL OF OPTICAL SPECTRUM USING INTENSITY
AND PHASE MODULATORS AS OPTICAL MODULATING SECTION

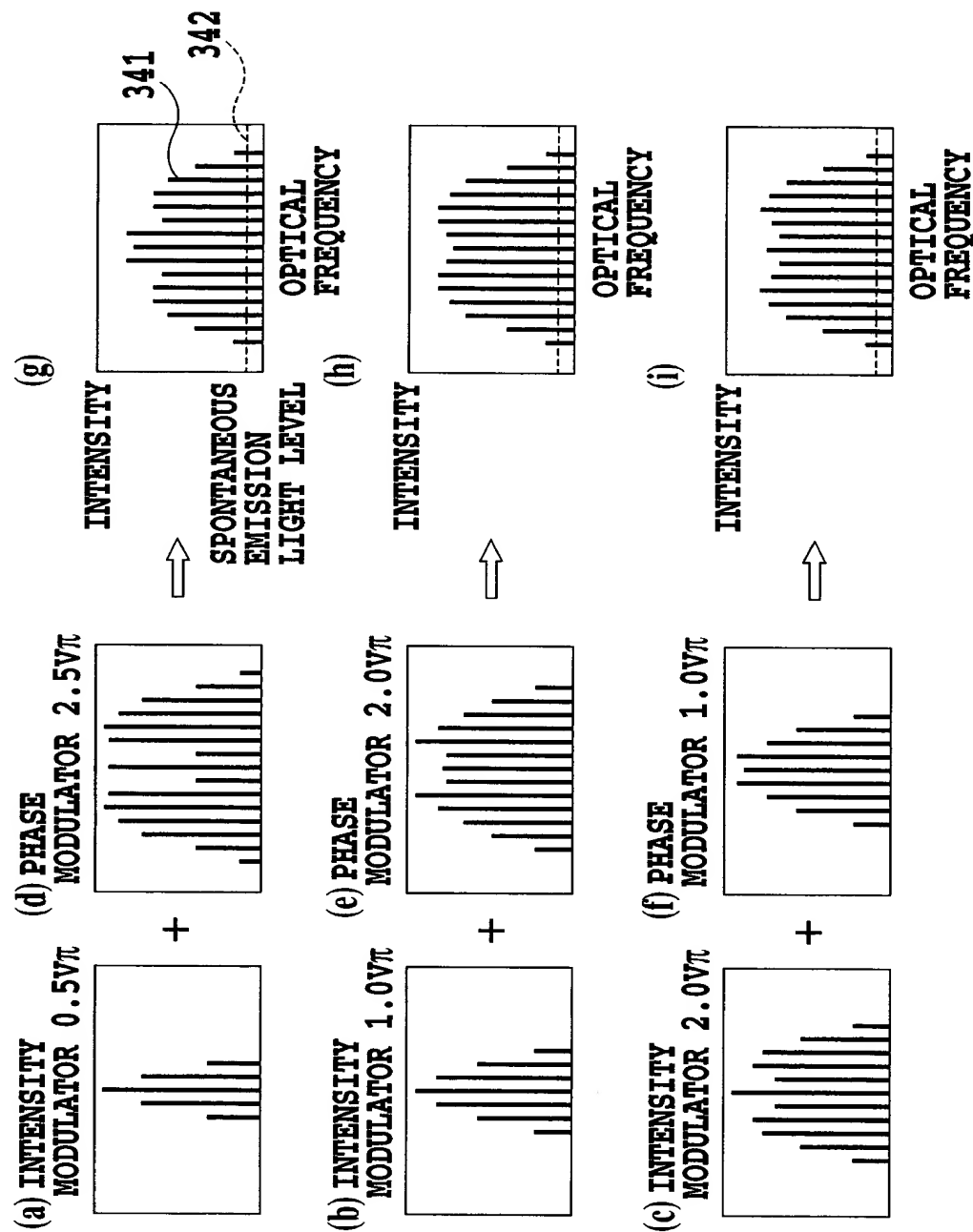


FIG.55

OPTICAL SPECTRUM OF MULTI-WAVELENGTH
LIGHT AMPLIFIED BY OPTICAL AMPLIFIER

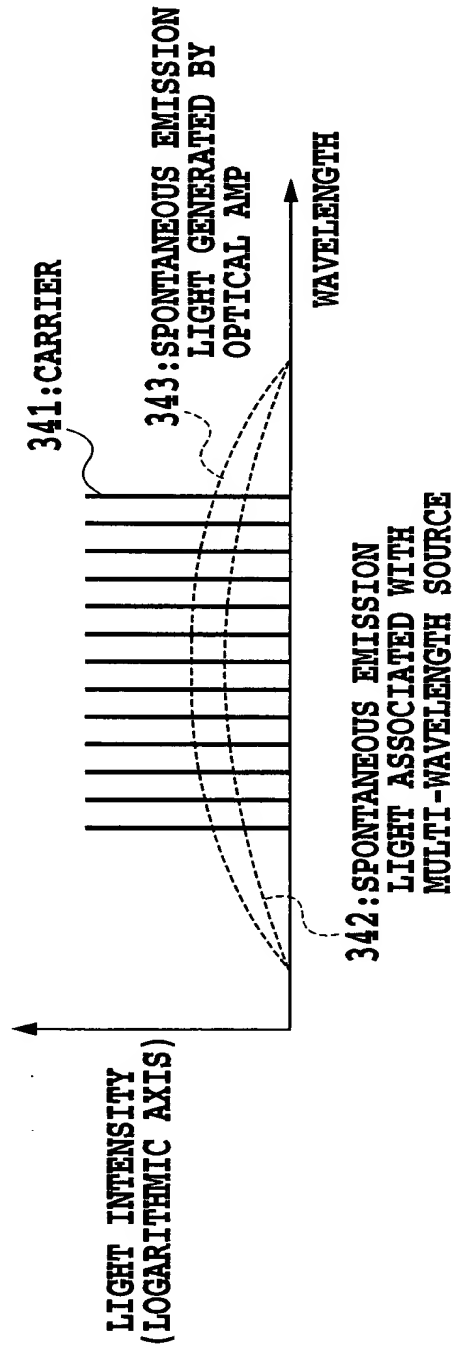


FIG.56

EXAMPLE OF SECOND CONFIGURATION OF
MULTI-WAVELENGTH LIGHT SOURCE

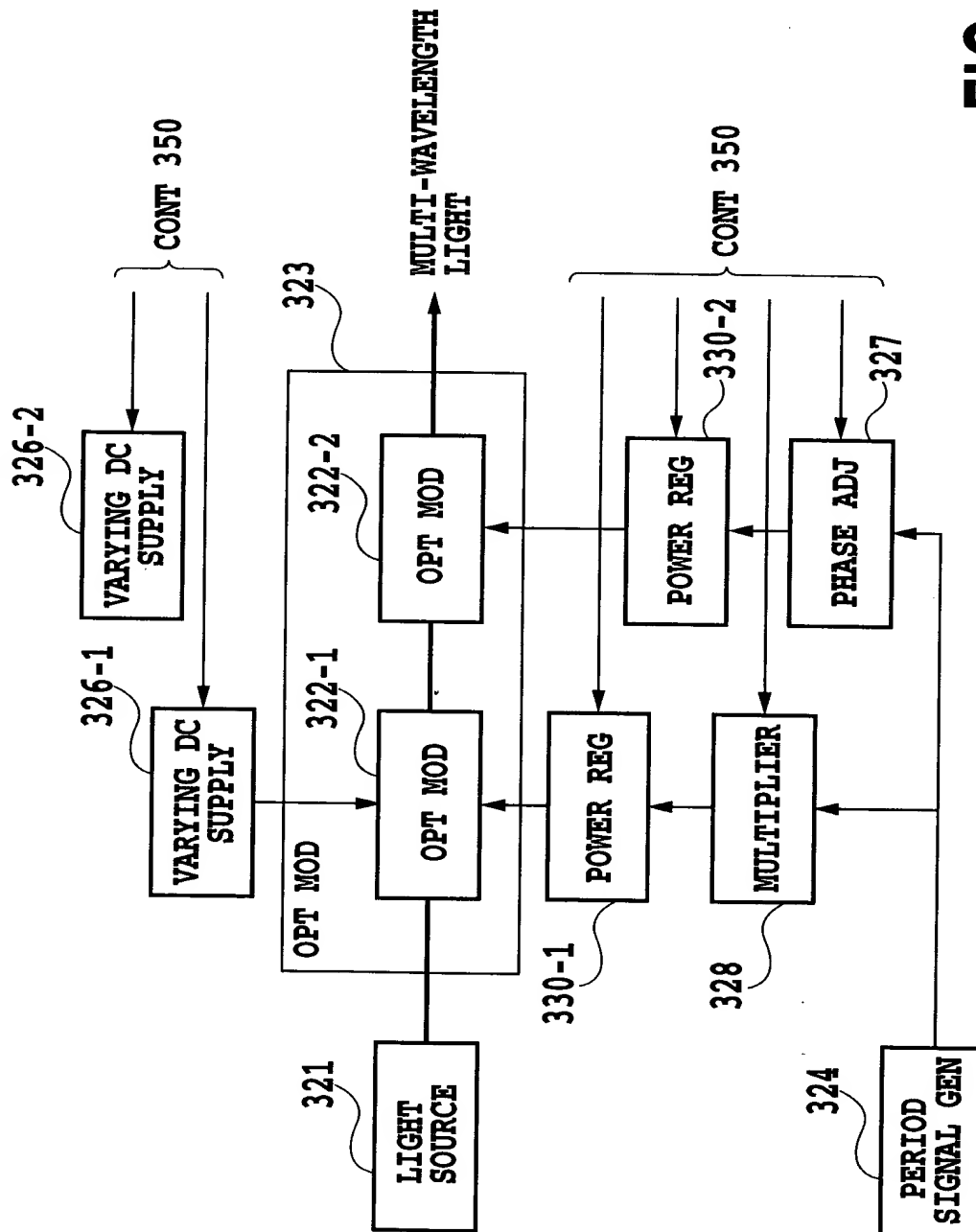


FIG.57

SHAPE CONTROL OF OPTICAL SPECTRUM
BY REGULATING PHASES OF PERIOD SIGNALS

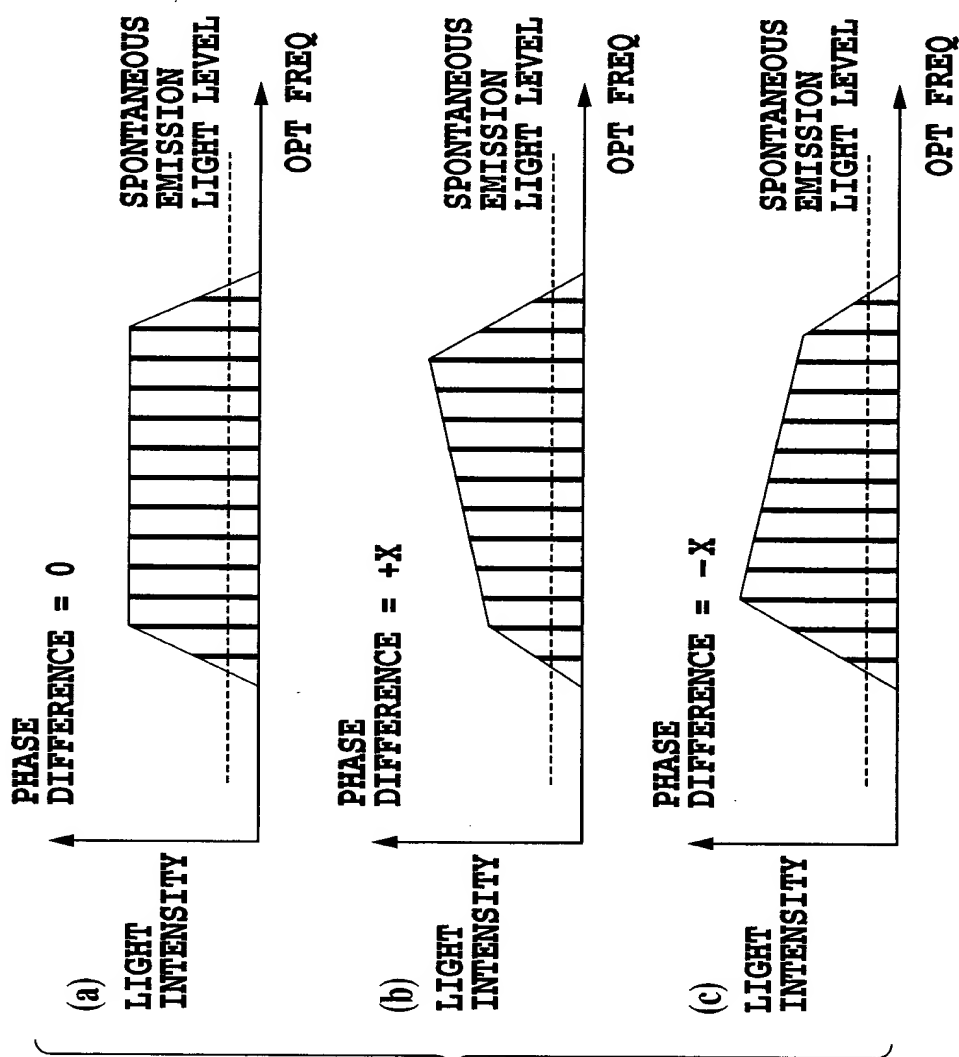


FIG.58

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SHAPE CONTROL OF OPTICAL SPECTRUM
BY REGULATING PERIOD SIGNALS

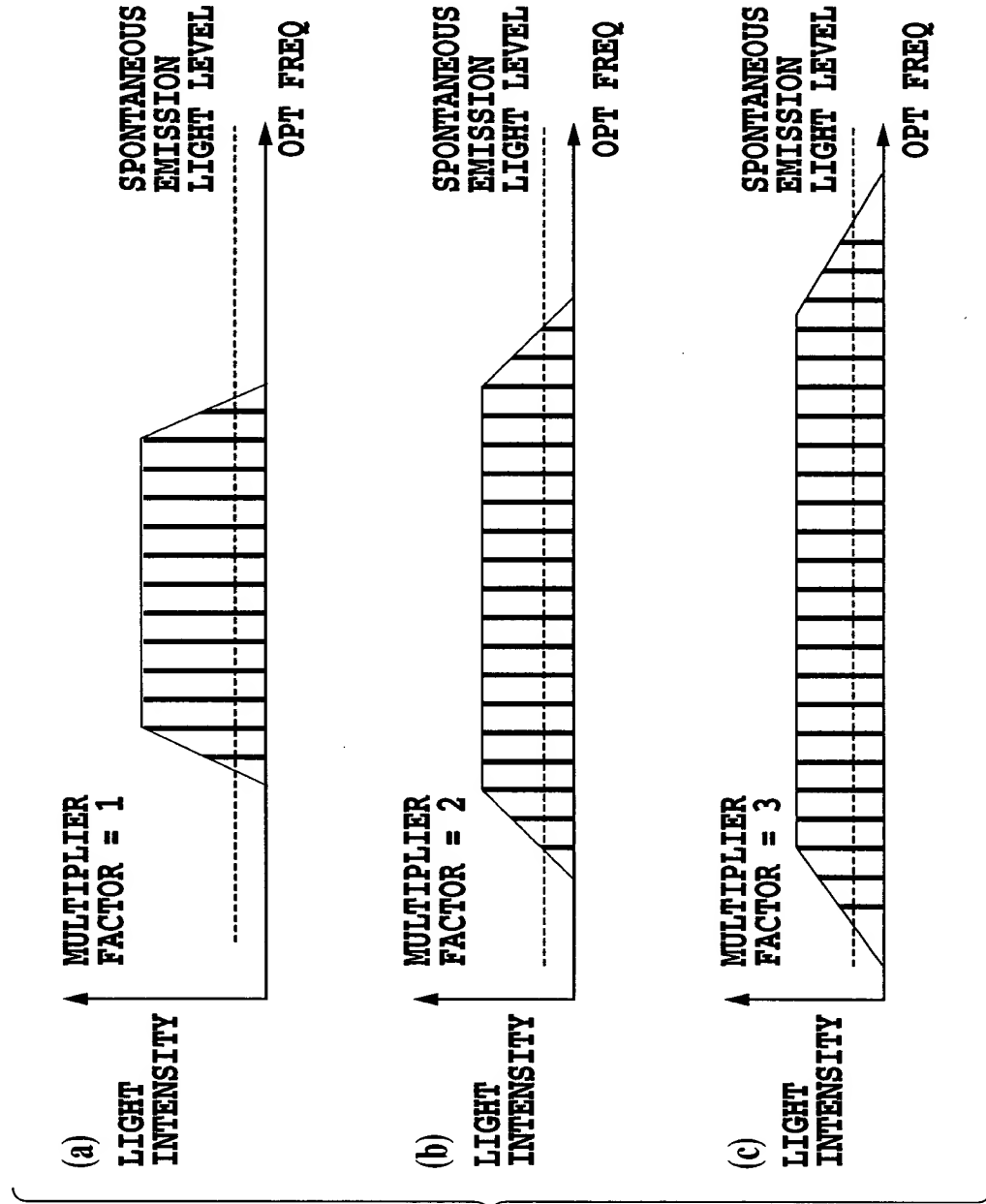


FIG.59

EXAMPLE OF THIRD CONFIGURATION OF
MULTI-WAVELENGTH LIGHT SOURCE

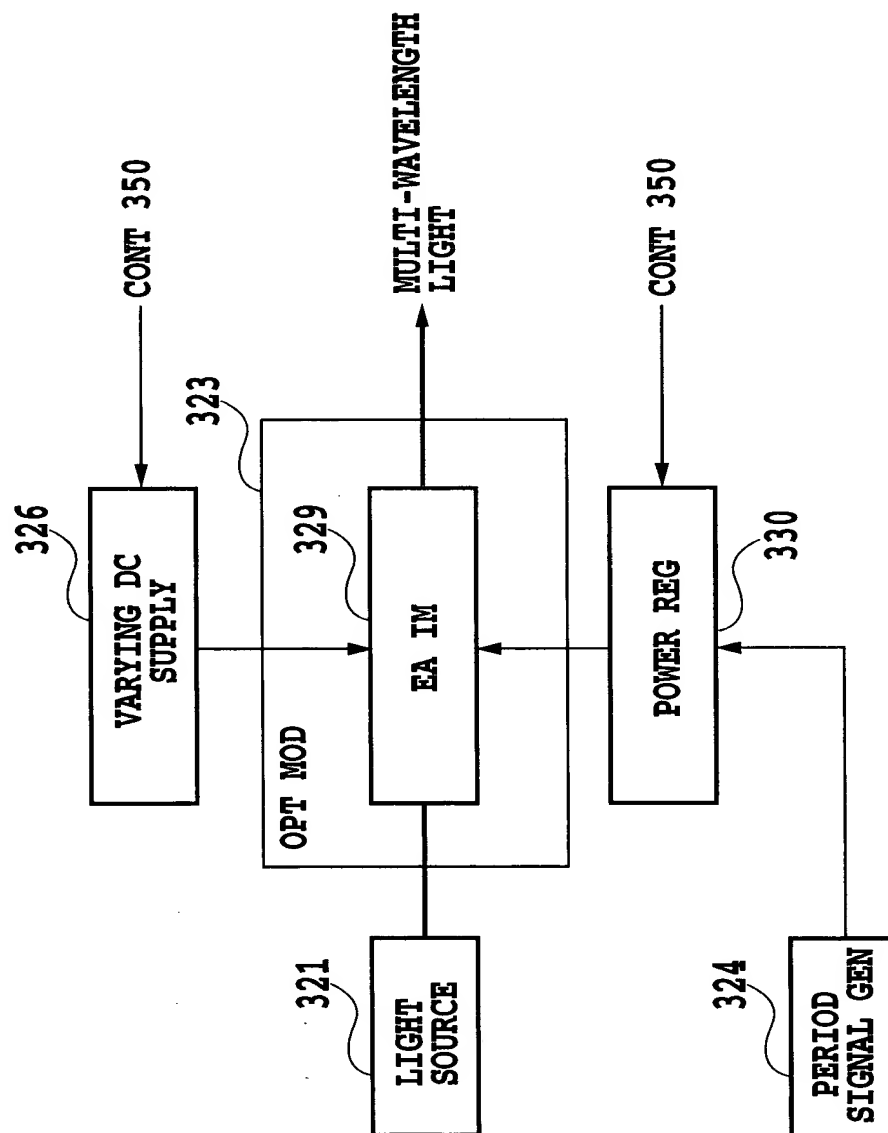


FIG.60

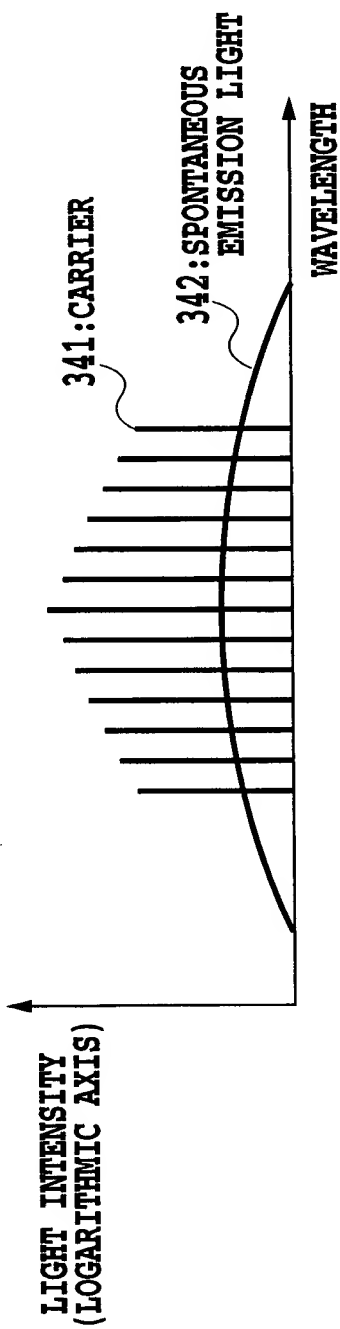


FIG.61

FOURTH EXAMPLE OF CONFIGURATION OF
MULTI-WAVELENGTH LIGHT SOURCE

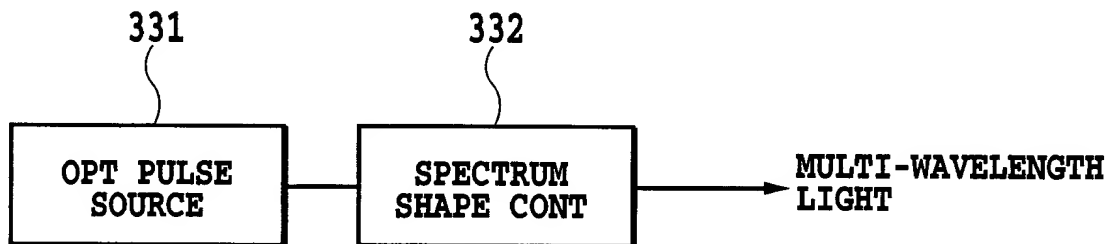


FIG.62

09900613-070601

PRINCIPLE OF ADIABATIC COMPRESSION
WITH DISPERSION REDUCING FIBER

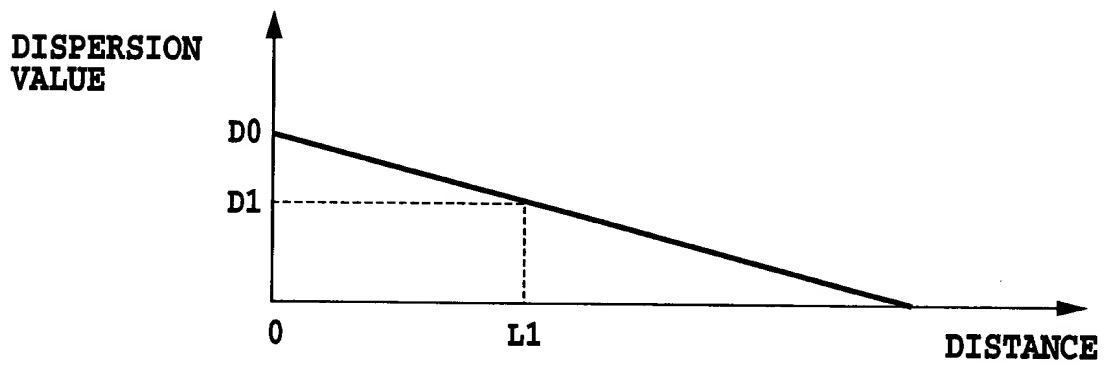
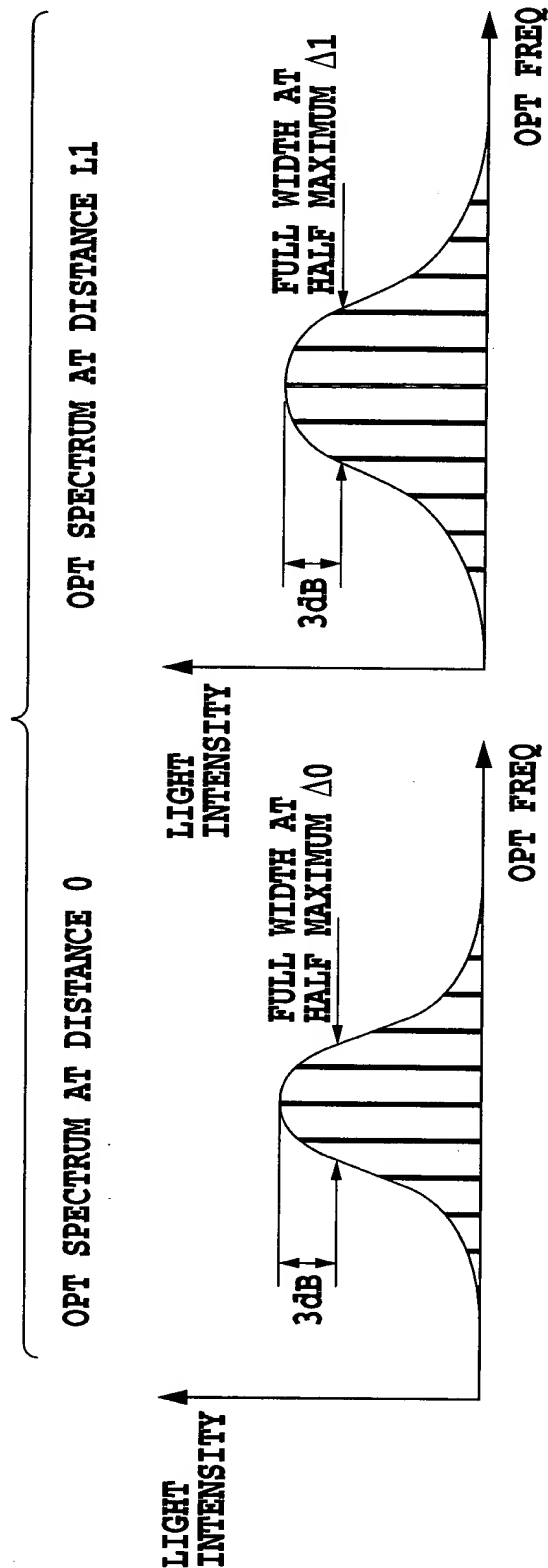


FIG.63A

09900613.070601
T09070 ET900660



$$\Delta 1 / \Delta 0 = D0 / D1$$

FIG.63B

RELATIONSHIP BETWEEN OPTICAL SPECTRUM OF COHERENT
COMPONENTS OF MULTI-WAVELENGTH LIGHT AND
TRANSMISSION CHARACTERISTIC OF DEMULTIPLEXER

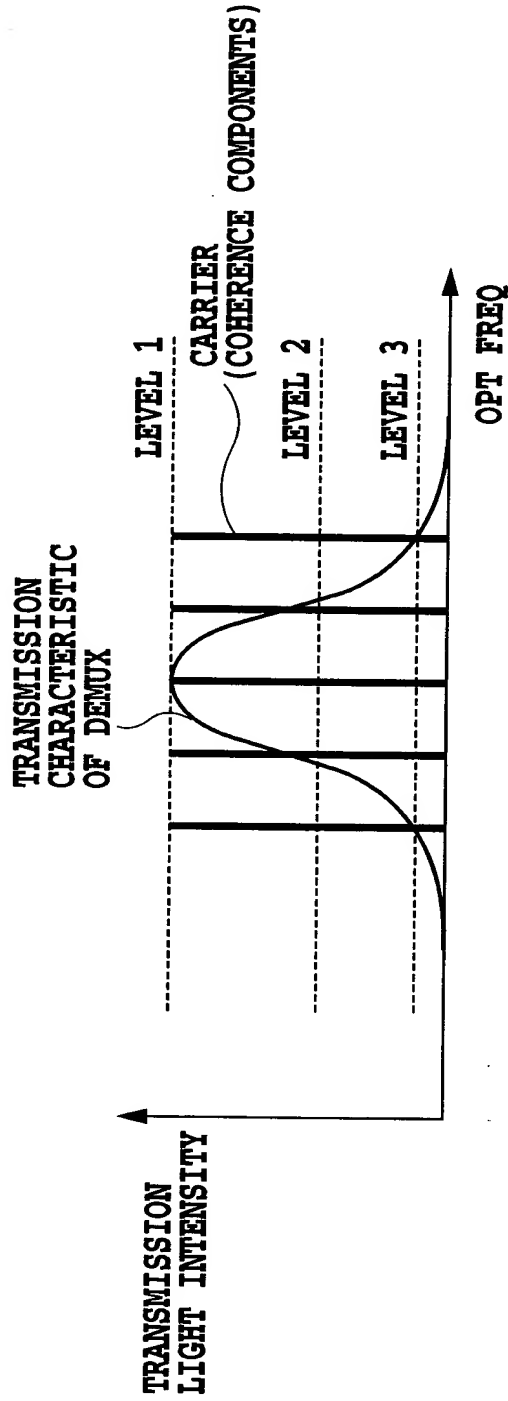


FIG.64

RELATIONSHIP BETWEEN STIMULATED EMISSION LIGHT AND
SPONTANEOUS EMISSION LIGHT FROM SEMICONDUCTOR LASER

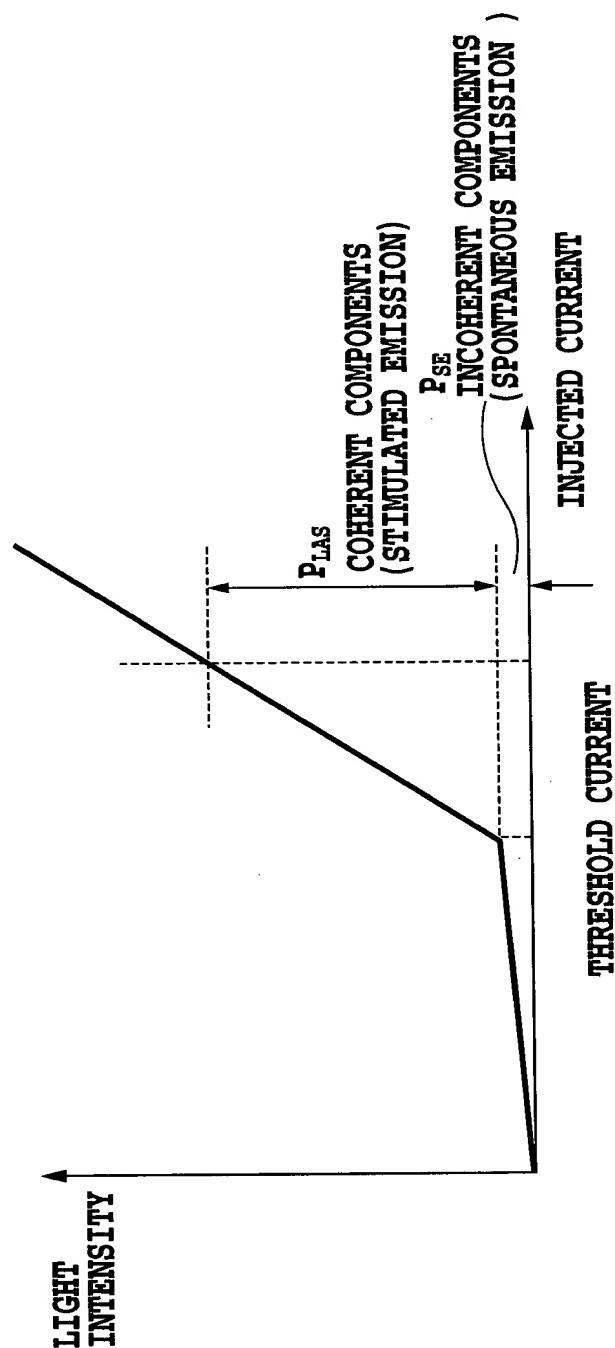


FIG.65

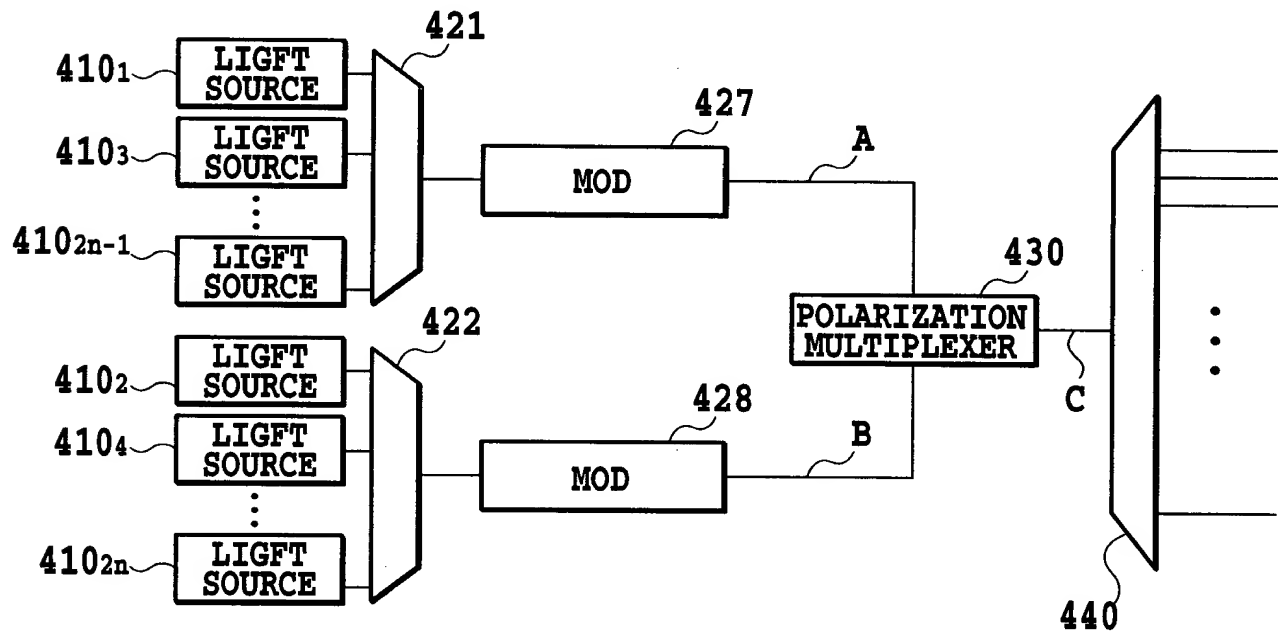
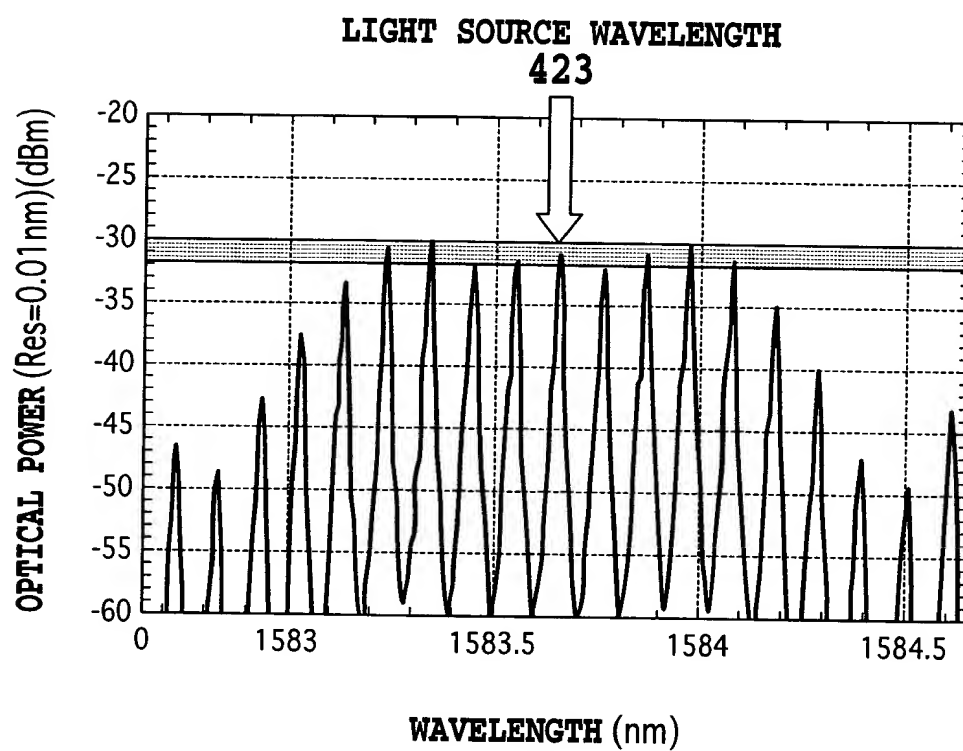


FIG.66

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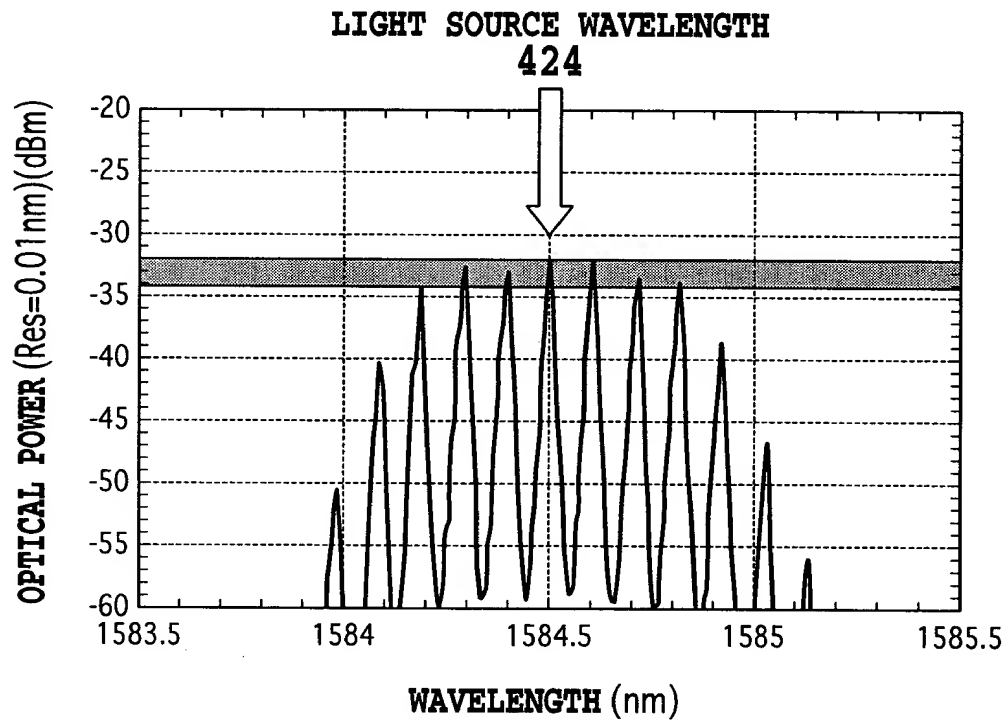


ODD-NUMBER-TH LIGHT SOURCE WAVELENGTH AND SIDE MODES

FIG.67A

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09020"ET900660



EVEN-NUMBER-TH LIGHT SOURCE WAVELENGTH AND SIDE MODES

FIG.67B

109020" ET900660

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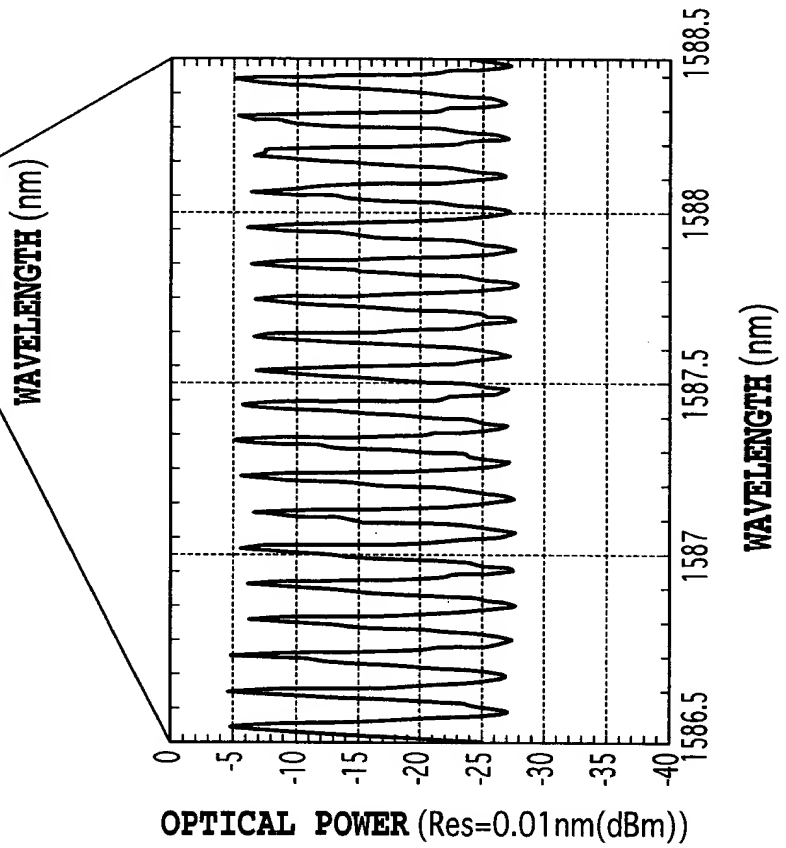
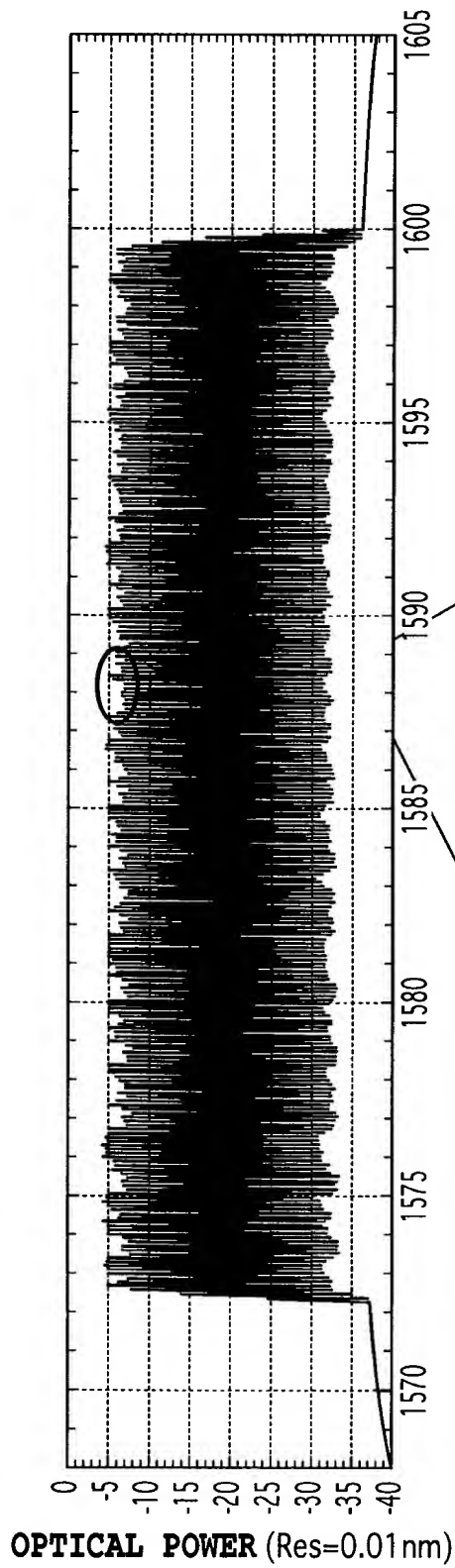


FIG.68

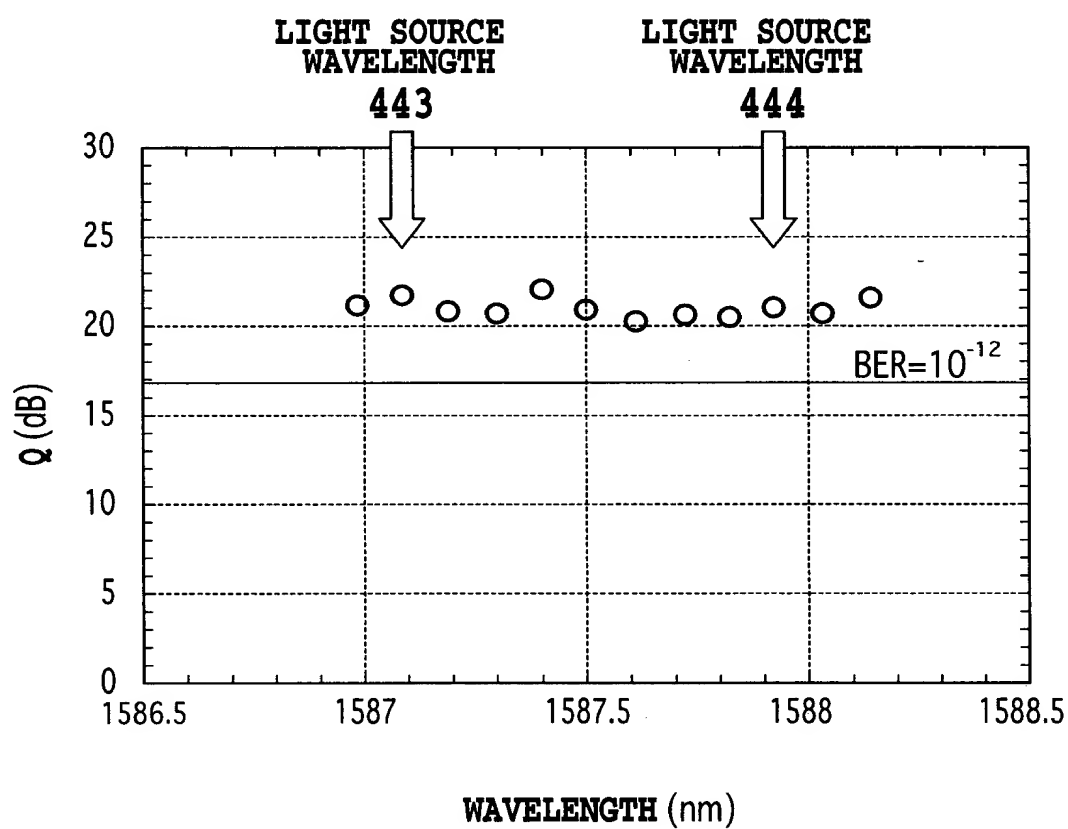


FIG.69

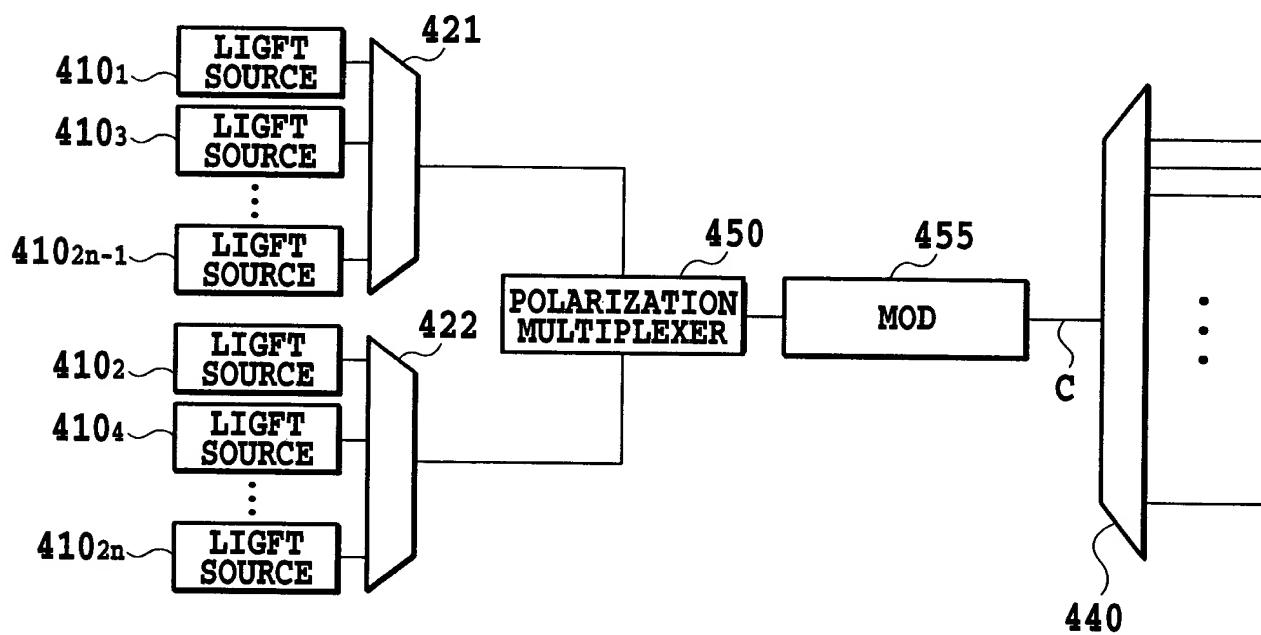


FIG.70

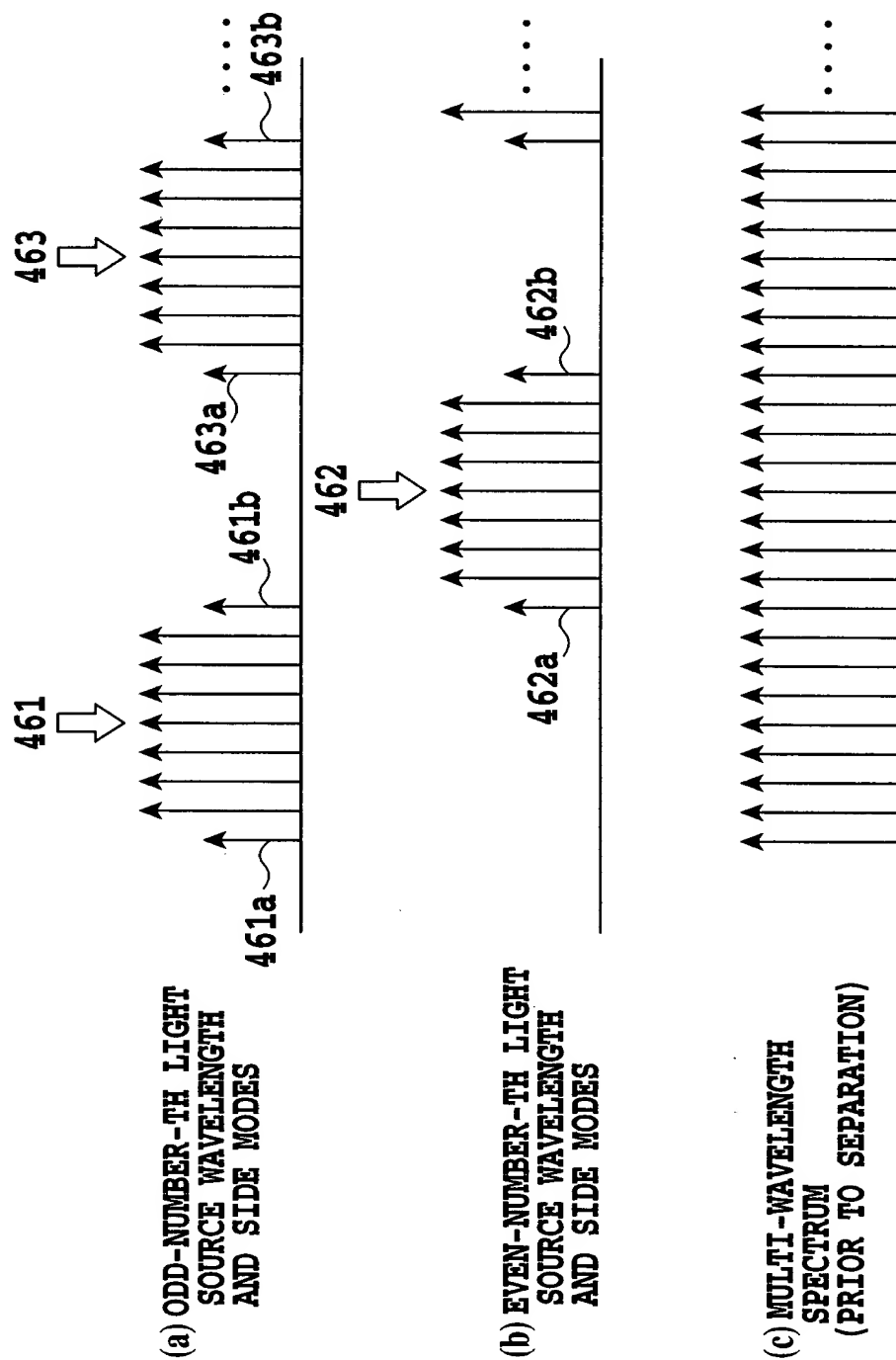


FIG.71